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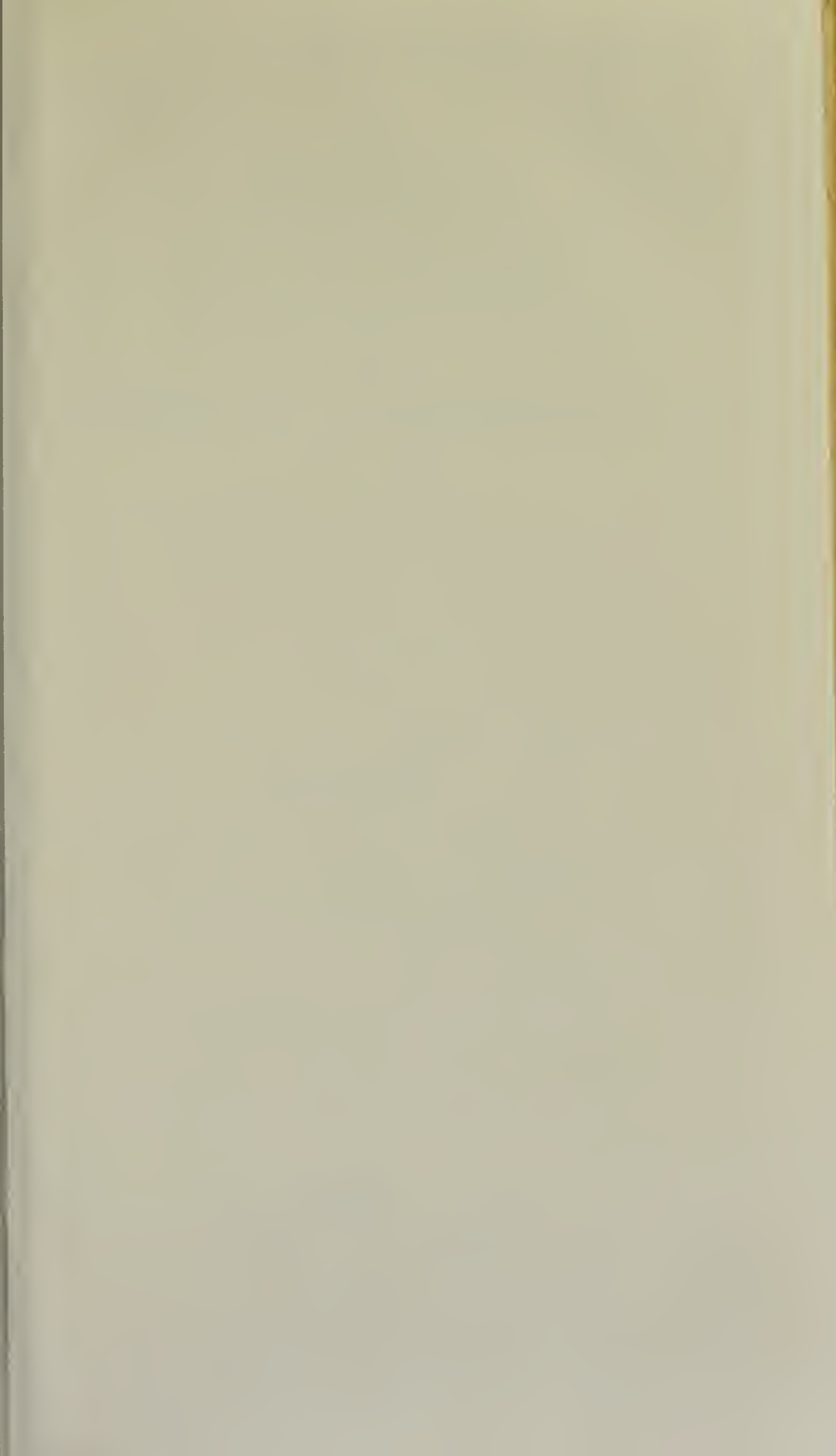


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*Tyson West, Surgeon 181*

AN

ESSAY

ON THE

NATURE AND CURE

OF

PHTHISIS PULMONALIS.

---

THE THIRD EDITION, ENLARGED.

TO WHICH IS ADDED

AN APPENDIX

ON THE

USE AND EFFECTS OF FREQUENT VOMITS.

---

QUOD SI MALI PLUS EST, ET VERA PHTHISIS EST, INTER  
INITIA PROTINUS OCCURRERE NECESSARIUM EST:  
NEQUE FACILE ENIM HIC MORBUS, CUM  
-INVETERAVERIT, EVINCITUR.

Celsus, Lib. iii. cap. 22.

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By THOMAS REID, M.D. F.A.S.

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London:

PRINTED FOR T. CADELL, AND W. DAVIES, IN THE STRAND.

1798.





TO

THE RIGHT HONORABLE

*LORD FREDERICK CAMPBELL;*

THIS ESSAY,

AS A TESTIMONY OF GRATEFUL RESPECT,

IS INSCRIBED,

BY HIS LORDSHIP'S



MOST OBLIGED

AND OBEDIENT

HUMBLE SERVANT,

*THE AUTHOR.*

London,

January 1, 1798.





## INTRODUCTION.



CONSUMPTION of the lungs has been considered as peculiarly endemial to the inhabitants of this country; whether occasioned by the infinite variety, and sudden transitions of the weather, by our insular situation, or manner of living, is not easily determined. Where a disease occurs so frequently<sup>†</sup>, that few families are without melancholy instances of its fatal effects, we might

<sup>†</sup> In the London bills of mortality, the number said to die of consumptions, is generally between four and five thousand annually, or nearly one fourth of the whole deaths, exclusive of those not buried in parochial churchyards, and in every other part of the kingdom. Though the manner of forming these registers, is liable to such uncertainty, as calls loudly for reformation, and the term consumption is applied to many different diseases, yet it will serve to demonstrate, that a great number yearly die of this disease.

might reasonably expect that something more than a palliative method of treatment, would have been discovered. But I fear it is an incontestable truth, that when the disease is confirmed, a perfect recovery seldom takes place.

The authors who have written upon diseases of the lungs, are numerous and respectable; each proposing a method of cure according to his idea of the cause, from whence the complaint originates in the constitution. These opinions have been so various and so different from one another, that sometimes they appear more like the sportings of the imagination, than grave and learned disquisitions. One author accounts for the hectic fever<sup>2</sup> by supposing the strength of the muscles to be reduced

By a register of the parish of Holycroft in Salop, from the year 1770 to 1780, kept by the Rev. Mr. William Gorsuch, it appears, that 311 died in the ten years by disease and casualties; out of which 62 died of consumption; 64 of a natural decay, without any apparent distemper, and 13 by accidents. So that the deaths by consumption is somewhat more than one in four. By an actual survey made in the year 1780, the inhabitants were 1113.—Philosoph. Transf. vol. 72. for 1782.

<sup>2</sup> ROBINSON on Consumption.



faster than that of the heart ; and therefore nothing more is necessary for its cure, than diminishing the one, and increasing the other. Some others imagine it proceeds from *animaleula* in the lungs, and recommend mercury and steel <sup>3</sup>. But since the publication of the *Phthisiologia* by the learned Morton, the general opinion has been, that the hectic fever and subsequent diarrhœa, were caused by the purulent matter in the lungs being absorbed and carried into the circulating fluids ; and hence they have been termed putrid. This hypothesis has been adopted by the latest authors upon the subject, and I believe is received by the most eminent physicians of the present age. Though the practice founded upon the theory of putrefaction, is in some measure abandoned, yet the impression is far from being perfectly removed ; and the disease continues not less fatal, than it was formerly. How far the method recommended in the following pages, may tend to remove this reflection

3 MARTEN. DESAULT, &c.

from the profession, time and the experience of those who shall make trial of it will determine.

In the course of more than twenty years practice, in some degree extensive, and from particular reasons having directed my attention in a special manner to complaints of the breast, I have had frequent opportunities of viewing the progress of Phthisis through all its stages, in every sex and age. And having observed with great regret the inefficacy of the means usually employed in its cure, I have ventured, with diffidence and respect, to lay before the public a method I have for some years found more successful.

In my attendance upon the sick, maturely reflecting upon the various symptoms and changes which appear in different periods of the disease, I have long been convinced, that the opinion commonly adopted of matter being absorbed from the lungs, and circulating in the blood vessels, by its acrimony and putrid quality occasioning the fever attending this disease, has been too implicitly followed; and when investigated attentively, will be found

found to rest upon principles which do not exist in the animal œconomy. However bold and decisive this assertion may appear, I trust, when I have produced my reasons in support of it, they will not only explain the origin of the hectic fever, and diarrhœa accompanying Phthisis Pulmonalis, in a manner more satisfactory and consonant to what we know of the human body, than has hitherto been done, but at the same time equally absolve me from the imputation of temerity or presumption.

Whoever assumes to himself the office of informing others, ought assuredly to deliver the subject as it appears with conviction to his own mind; sincerity in that point, at least, is expected from him, however it may militate against the opinions of preceding authors. In so doing, whether his doctrine be founded upon just principles, or on the sandy basis of conjecture, he has fulfilled an indispensable duty which he owed to the public.

Excuses and apologies from young authors are become so common, so much a matter of course, that they have lost their designed effect: perhaps they do not always convey

an

an idea of self-diffidence. The following Essay is published with a desire to improve the manner of treating a dangerous, and too often incurable disease. If it should in any respect contribute to this desirable purpose, or suggest hints to those of greater abilities, apologies will be unnecessary. If on the contrary that should not be the case, it will meet with the contempt it deserves, and sink into oblivion with numbers that have gone before it.

In this age of philosophical enquiry, in which the human mind is daily enlightened by the rays of knowledge, I doubt not but any attempt, however weak, to promote a science so essentially necessary to mankind, will be received with liberality, and judged with candor.



# INTRODUCTION

TO THE

## THIRD EDITION.

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THE second edition of the following Essay having been out of print some years, I should have availed myself sooner of the disposition in its favor, had not circumstances occurred, which did not allow me to bestow the accurate attention requisite to whatever is intended to meet the public eye. The time that has elapsed since the first publication, has afforded me opportunities of correcting some errors, and of enlarging and improving the practical part in many respects. It will therefore, I hope, be found more useful to the younger part of my readers; to those who are entering upon the practice of an anxious, a painful, and a laborious profession: at least, it may put them upon their guard, and induce them to examine with attention the propriety of the treatment recommended in diseases of the lungs, by different authors during the last century.

In this momentous period of general innovation and change, or, *in the insidious cant*  
of

*of the times*, of reformation, several novelties have been attempted in the cure of Phthisis Pulmonalis; but it will be shown in the progress of this work, that wine, bark and animal food, part of the new discoveries, have been the common practice since the time of Morton, and probably long before.

I have the satisfaction of seeing the principles, endeavoured to be here inculcated, considerably diffused, as well abroad <sup>1</sup> as at home; the farrago of lohocks, emulsions and oils, nearly banished the chambers of the sick, and the use of emetics taken fasting, in general practice. Whether that practice originated with this Essay or not, is of small importance; if the treatment of pulmonary diseases has been more successful since that period; if the land-marks of the science have been advanced in the smallest degree, my intention is fulfilled; time and the candour of mankind, will properly estimate the merit of this, as of every other performance.

<sup>1</sup> The Essay has been translated into German by Dr. Aug. Fred. Udr. Diel.—Offenbach am Main, 1787.—And into French by Dr. Dumas and Dr. Petitdarson. Paris, and Lyons, 1792.

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AN  
E S S A Y  
ON



*PHTHISIS PULMONALIS.*

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CHAPTER I.

*Subject proposed—persons most liable to consumption—white teeth—danger of establishing uncertain criteria—origin and symptoms—first period—second period when confirmed—third period diarrhœa—weakness of the mind—termination.*

IN offering to the public my sentiments upon the nature and treatment of pulmonary consumption, it is not necessary to enter into a minute description of every particular symptom and predisposing cause of that distressing complaint: they are numerous and uncertain, and may be found detailed with great accuracy, in almost every author who has written upon the subject. My design is to take a succinct view of the general symptoms and pro-

B gress

gress of the disease, and of the causes which can be ascertained with the greatest precision; to consider the method usually pursued in the cure, and lastly, to offer such observations as have occurred in my attendance upon those labouring under this, too fatal disease.

In prosecuting a subject, that has employed the pens of so many eminent authors, it will be impossible to avoid sometimes using the same thoughts, and even expressions, without being conscious of it. But wherever I have availed myself of such assistance, I have been particularly careful in acknowledging it. This will account for the frequent quotations, which to some readers may carry an affectation of pedantry, or an exemplification of reading, both which are the most distant from my mind. And as it is probable I may differ in opinion, concerning the cause and cure of this disease, not only with those of the past, but of the present age; I beg it may be understood, that I do it with that deference and respect due to their superior abilities, when brought in competition with mine.

Con-

Consumptions arising from various causes, have been differently denominated, viz. Symptomatic, Scrophulous, Scorbutic, Venereal, Hepatic, Asthmatic, &c.<sup>1</sup> The subject of the following pages will be confined to the true Phthisis Pulmonalis, or consumption of the lungs, usually preceded by tubercles, but sometimes, although rarely, by hæmoptysis or spitting of blood.

There is no branch of science in which precision is of more importance to the public in general, than in treating medical subjects, and in none more necessary than the present, where the beginning is so imperceptible, that it has been well observed by a learned author, “*Ut multos horum jugum let priusquam se fere aegrotare credunt*.”<sup>2</sup> I would define the Phthisis Pulmonalis when confirmed, to be an expectoration of purulent matter from the lungs by means of frequent coughing, attended with a fever of a

<sup>1</sup> MORTON Phthisiologia. lib. 3. Anno 1689.

GIDEON HARVEY Morbus Anglicus Ed. 1674, reckons up twenty different species of Consumption, among which are those from love and witchcraft. The French translator of this work enumerates nearly as many, p. 367.

<sup>2</sup> CLIFT. WINTRINGHAM Bar. Com. § 334. An. 1782.

<sup>3</sup> Vide RUSSEL on sea water, 1753.



peculiar kind, morning sweats, and remissions in the forenoon, occasioning a wasting of the flesh and strength.<sup>4</sup>

This disease usually attacks people of a delicate, weak, tender constitution, with great laxity of the muscular fibre and contracted thorax, and as such habits of body are peculiar to certain families, in such cases it may with some degree of truth, be termed an hereditary disease; but this, by no means, is to be understood in the same sense as Gout, Scrophula, Lepra, &c. where it is scarcely possible for the unfortunate descendant, whatever precautions he may use, to avoid being afflicted with the disease of his ancestors. It appears in persons of every age, most frequently in those from fifteen, or about puberty, to thirty-five. But it sometimes happens that children are born with a violent cough, emaciated, and have died in the month, evidently of a confirmed Phthisis.

<sup>4</sup> “ The Phthisis Pulmonalis I would define to be  
“ an expectoration of pus or purulent matter from the  
“ lungs, attended with a hectic fever.”—CULLEN First  
Lines, § 853. Anno 1784.

Young people who have grown fast <sup>5</sup>, who are tall, thin, narrow chested, of a delicate complexion, clear skin, and the white of the eyes tinted with blue, are most obnoxious to pulmonary consumption. The projection of the scapulæ, commonly mentioned by authors as resembling wings, and characterising the disease, is occasioned by the narrowness of the thorax, the shoulders being thereby brought more forward, the scapulæ must necessarily project outward; it should not be considered as a symptom, but the effect of a predisposing conformation.

Among the many marks pointing out a tendency to this disease, it has been said that <sup>6</sup> “the whiteness and transparency of the teeth is the distinguishing characteristic, or a predisposition to it.” I must confess, though I have sometimes observed consumptive people have white and clear teeth, yet it has not been confined to them; and since the former editions of this work, in all

<sup>5</sup> “Adolescentes, qui pectoris et corporis ferè totius musculos graciles, tenues, et laxos habent, ut plurimum in tabem delabuntur.”—CLIFT. WINTRINGHAM Bar. Com. § 28. Anno 1782.

<sup>6</sup> SIMMONS on Consumption, p. 13. Anno 1780.

the patients afflicted with Phthisis whom I have attended, it has been my constant custom to look for this characteristic, but very commonly to my disappointment. How far a particular symptom can be, at the same time the characteristic of a genuine disease, and of a predisposition to that disease, I shall not pretend to determine<sup>7</sup>, but considered as a distinguishing mark, it appears to me liable to much uncertainty.

A pain in the upper arm, of one or both sides, resembling rheumatism, is a very uneasy symptom attending early affections of the lungs.

As the great danger in pulmonary complaints, proceeds from the patients being lulled by their frequency into a fatal security, fancying their disorder a common cold easily to be removed by simple remedies; it becomes therefore a matter of the utmost importance to ascertain a criterion of the disease, a symptom, by the presence or absence of which, the patients may be as-

<sup>7</sup> “The propensity to any particular state must surely be short of that state to which it tends, and incapable of giving that, which it has not itself attained.”—  
MILLMAN on Scurvy and Putrid dis. p. 57. An. 1782.

fured when they are, and when they are not in danger.

Whether it arises from their sedentary life, from the structure and conformation of their bodies, or from some other particular cause, females are more liable to this disease than males<sup>8</sup>. How frequently do we observe the most beautiful, the most elegant of the sex, fall victims to this cruel malady! The mind participating, as indeed it always does, of the delicacy of their bodies, gives early marks of sensibility and uncommon acuteness in their understanding, and the weakness of their frame impresses a gentleness and softness on their manner, that greatly excites compassion and distress for their melancholy situation.

The present absurd fashion of dressing and introducing young women early into the world, as it is termed, before their bodies have acquired a proper degree of strength and firmness, and the mode of living among

<sup>8</sup> In Philadelphia where Phthisis Pulmonalis is the most frequent and fatal of the Chronic diseases, it appears principally among the Quakers, and in three females to one male.—Dr. CURRIE on the diseases of America, 8vo. Anno 1794.



people in genteel and high life, and even in middling stations (if any such can be found) is one great cause of the frequency of consumption. But this will be more particularly considered in another place.

The origin of the genuine Phthisis Pulmonalis, may generally be traced from Hæmoptysis, or blood issuing from the lungs, from what is termed taking cold, and sometimes from external injuries. When the disease has made a certain progress, the indication of cure is nearly the same, however the symptoms may have differed in the incipient state.

A cough more or less troublesome at night, usually dry, occasioning pain and stitches in the breast sides and head; slight rigors and some degree of feverish heat, with pain in the back, joints, and limbs, are the common effects of taking cold. This has been by authors reckoned the first stage of the disease. The method of treating such complaints is well known. Keeping warm, taking diluting drinks, gentle aperients, and losing some blood according to the urgency of the symptoms, together with abstinence, generally removes them in a few days. The

learned



learned Sydenham thought the latter injunction sufficient for the whole<sup>9</sup>. Indeed the frequency of these slight indispositions, and the facility of removing them, render people exceedingly careless; and as what may be done at any time, is generally neglected, so the remedies which probably might have succeeded in the beginning, are postponed and omitted till the complaint is too firmly fixed to be removed by their efforts.

The symptoms increase: the cough becomes more violent, hard, dry, and incessant, restless nights, the pains in the thorax more lancinating and fixed; the difficulty and quickness of breathing considerable, the expectoration little and frothy; the pulse quick, hard, and sometimes like a small chord, at others full and laborious; the tongue white and the back part tinged with yellow; the eyes dull, the countenance pale and sickly; the appetite impaired; the

<sup>9</sup>“ Si Tussis nondum febrim, atque alià symptomata  
“ quæ ut plurimum se adungere solere diximus, ac-  
“ cerserant, satis esse arbitrabar, ægrum à carnibus et  
“ liquoribus spirituosius quibuscunque arcere.”—SYDEN-  
HAM, Tuss. Epid. Anno 1675.

stomach sick, nauseating food, and sometimes rejecting it<sup>10</sup>. The patient still goes about, and as it is supposed to be only a common cold that will easily go off, does not think it necessary to be under any restraint: perhaps by the advice of some female Sibyl, takes a family nostrum, with plenty of strong broth and wine whey to nourish and support his strength.

Should the patient chance to be a female, with all the spirits, warmth, and inexperience of youth about her; it is more than probable that after wrapping herself up in the morning, in what the fashionable world calls an undress, while staying in the house; she will in the evening, whatever

<sup>10</sup> “Tussi phthificæ sicuti ferè semper inappentia, et  
“fitis accedunt, ita etiàm post cibum vomitio ferè super-  
“venire solet; adeo uti æger à pastu continuò ferè tussire  
“soleat, donec cibus tandèm vomitione fuerit rejectus.

“Atque quidèm hæc vomendi dispositio cum tussi  
“conjuncta, mihi est inter certissima signa Pathogno-  
“mica tussis Phthificæ. Etsi enim aliquot laborantes  
“Phthisi (ubi scil. conjuncta febris admodùm mitis  
“fuerit) appetitu ferè integro uti noverim, vix tamen  
“ulli absque hæc vomendi dispositione, unà cum tussi  
“conjunctâ, à sumpto cibo reperiebantur.”—MORTON  
Phthisiologia p. 102. Anno 1689.

may

may be the state of the weather in this drizzling and variable climate, half naked (being then full dressed) alternately expose herself to the chilling damps of the cold, moist, night air, and the heated atmosphere of a drawing room, loaded with the various exhalations and effluvia arising from a crowded assembly. And this she will do as long as her strength and spirits can support her to tread the nightly round of dissipation. Need we then be surprised at the rapid and unexpected progress which the disease makes in such cases, and in such circumstances !

I have always thought it a matter of great importance, and considerable difficulty, to determine when complaints of the breast may with propriety be termed a consumption. And although I cannot pretend to do this with that exactness with which other diseases are defined, yet it is necessary to attempt at least the outline.

A Cough with pain in the breast, difficulty of breathing and feverish heat, though it may become, cannot be termed the first stage of the disease, because we know these symptoms may be easily removed. The frequent

quent application of the term consumption to such complaints has been the cause of much evil to those really affected with the disease; for, by trusting to remedies that have in such cases been found effectual, they have been past recovery before they apprehended themselves in danger.

The symptoms I have enumerated may properly be said to tend to a consumption if not speedily removed; and as the dry sonorous cough preventing sleep, if attended with dyspnoea, feverish heat in the evening, and wasting of the flesh, indicate the existence of tubercles however small, it may be termed the inflammatory or FIRST PERIOD.

In a short time the fever becomes more intense, with accessions in the afternoon or evening, and a slight perspiration breaks out in the morning upon the breast and upper parts of the body, to the sensible relief of every symptom. A remission succeeds and continues during the forenoon. The cough does not abate, and is aggravated in a recumbent posture, preventing sleep till towards morning when the sweat comes on. The expectoration increases in quantity, is frothy and sometimes streaked with blood. During  
the



the fever the cheeks appear as if painted with a circumscribed spot of pure florid red; the lips and tubercles in the canthus of the eyes are also redder than when in health. The feverish heat is augmented after eating, particularly solids, and on taking exercise, with flushing in the face, and a burning dry heat in the palms of the hands and soles of the feet. The augmentation of the fever upon eating does not appear to proceed from the admission of new chyle to the blood, as is generally supposed, because it comes on immediately after or even during the taking food, before the digestive process has begun. When taken in the morning during the remission no increase of fever is perceived. It seems to arise from the stimulus of the aliment upon the stomach, occasioning a greater degree of tone in the muscular fibre.

As the disease advances the fever becomes more stationary and the remissions more distinct; the accession is about the middle of the day, increases till evening, and continues violent most part of the night, till the morning sweat breaks out and the patient gets some rest. Authors have said there is a second



cond exacerbation in the evening<sup>11</sup>, but this I have not observed as a general symptom. In the morning they find themselves relieved, but get up pale, languid, and unrefreshed by their sleep.

Though the pulse is always quicker than its natural state, yet there is an evident remission of the fever and an abatement of the symptoms for some hours in the forenoon. The expectoration becomes more copious, and in the morning is mixed with pus in small globular masses; sometimes disagreeable to the taste, yellow, greenish, and as the disease advances, of an ash colour.

As the matter expectorated grows more fluid, the cough abates of its violence, but not in its frequency, and the lungs being less agitated, the pains in the breast and head are relieved, or rather they are less, which feeds that delusive hope by which the patient is supported through every stage of this distressing disease; never relinquishing the expectation and even certainty of a cure, and always conceiving they are much better. They are particularly ingenious in

<sup>11</sup> CULLEN First Lines. § 858. Ed. 4. Anno 1783.

accounting for every accession of fever or increase of any other symptom, and as readily attribute their remission to the effects of some remedy which they may have taken by the advice of their physician, or their friends: for in this disease, it is not the least of the dangers attending it, that every one who approaches the sick knows a certain and efficacious remedy, which their fears and apprehensions induces them too often to take. For I believe it is a principle in the human mind, not confined to the ignorant and uninformed, rather to use means that are incomprehensible, than trust to those which give a reasonable expectation of success.

At this period, when the hectic fever has regular remissions, when the sweats come on every morning, and when the patient spits up matter freely, even though it should be in small quantity, I am disposed to think the disease a confirmed *Phthisis Pulmonalis*.

The countenance now gives evident signs of wasting; the fat that used to fill up the sockets and support the eyes, assisting their lustre and brilliancy, melting away, they sink, grow dull and languid; the cheeks  
appear

appear prominent, the nose sharp, the temples depressed; the flesh wears away from every part of the body, and the strength rapidly diminishes; the cough is more distressing in the first part of the night, the breathing is short, quick, and of an offensive smell, the sleep less and disturbed; the morning sweats profuse and melting, the degree of heat augmented, and the remissions shorter and less perfect. The expectoration appears more loaded with matter, brought up easier, and in greater quantity, sometimes a pint in twenty-four hours. This I esteem the SECOND PERIOD of the disease; while there still remains some degree of strength, and the digestive faculties are so far unimpaired as to be capable of assimilating nourishment to support the body.

From the beginning, the appetite is less injured than could be expected considering the quantity of disease. The body is for the most part costive, particularly after the morning sweats have taken place. The urine is generally high coloured and deposits a sediment of red or whitish matter. About this time in females, their monthly evacuations cease; and this becomes another ground of  
hope,

hope, as it is to their imagination a reasonable cause for all their complaints; nor is it possible to convince them were we disposed to be so cruel, that it is merely a necessary consequence of the diminished strength of the moving fibre, and the general weakness of the system.

THE THIRD and last act of this domestic tragedy commences by the appearance of a purging. Though this very generally takes place towards the end of the disease, when it terminates fatally, yet sometimes there is scarcely any appearance of it. I have lately attended a case of this kind, in which the bowels were very little affected, not more than one loose motion in a day. From having been generally costive during the former periods of the disease, the patient has now frequent motions in a day which soon becomes a confirmed diarrhoea; every thing taken into the stomach, quickly running off by the bowels. When this circumstance takes place, the fever, heat, and morning sweats abate of their violence, but the cough continues distressing at night, preventing sleep, which can only be procured by an

C

opiate.



opiate. The tongue appears clean, and with the fauces is of a bright red, sometimes covered with aphthæ, and generally fore and tender. The voice grows very hoarse, the speech interrupted by shortness of breath and hicough, both which are extremely troublesome. Their lower extremities swell, and retain the impression of the finger.

It is not a little surprising that in this stage of the disease, and sometimes sooner, the appetite should be unnaturally keen, and that the patient should devour a very considerable quantity of food. This symptom which I have frequently met with, is mentioned by Hippocrates<sup>12</sup> but not taken notice of by authors in general. As increase of appetite is commonly esteemed a mark of returning health, this symptom deserves particular attention, as it may induce the

<sup>12</sup> “Quanto verò magis tempus progreditur, tantò magis pus sincerum sput, et febres acutiores fiunt, et tussis frequens ac fortis, et *inedia vexat*, et tandem alvus infernè turbatur.” HIPPOCR. de Morbis. lib. I.

“Phthifici cibum avidè appetentes et exinde robur nequitiqum acquirentes, desperati: Nectar enim vitale de prædationi dicatum indicat.”—CHR. BENEDICTO.—Tabid. Theat. p. III. An. 1656.



unwary practitioner to make a fallacious prognostic.

The deluded patient still expects a favorable event, and really suffers less than the afflicted parents, who anxiously sit, watching a favorite, perhaps an only child, wasting away before their eyes by an incurable disease; and full of hope, unconscious of danger, rapidly rushing to the grave.

The Diarrhœa becomes more violent, the heat and morning sweats abate, the spitting is diminished, especially in the day-time. Their strength fails them to such a degree that they can scarcely bear the least motion without fainting. Their mind participates in the decay of the body in a remarkable manner; their memory fails them so much, that after a restless night they cannot recollect what passed the preceding day, perhaps not what they did a few hours before. Even their affections, the dearest sensations of the soul, forsake them. This to the patient is a happy circumstance, but to an attentive observer the cause of deep concern, inasmuch as it seems to indicate the soul or sentient principle to depend upon the strength

of the muscles, and conformation of the body <sup>13</sup>.

As they approach the fatal period, they have frequent and long faintings; their nails seem bent round the extremities of their fingers, the hiccough is distressing, sometimes slight convulsions; their voice falters, and

<sup>13</sup> This weakness of the mind, may be observed in all diseases occasioning a debility in the moving fibre, such as those termed putrid, the scurvy, dysentery, &c. But it is frequently perceived in old people who have enjoyed general good health. They grow unwell, without any particular disease, peevish and discontented with every thing about them, restless and moving from place to place. In a short time they become calm, easy, placid, and equally indifferent to their own condition, as to that of every one connected with them. Their natural affections seem to be obliterated, and they slide into the grave with more than stoic apathy, without a consciousness of pain or anxiety. Is then that power, that vivid principle within us, that active agent termed mind, which soars even to the skies, and thinks this globe too confined for the sphere of its excursions, a mere modification of certain fibres and canals! and does it depend for its existence upon materials so frail and perishable! Is it not rather according to the orthodox theologian, an emanation from the great Creator of the universe, pre-existing, and that shall exist to all eternity! This enquiry, curious awful and interesting, is incapable of elucidation from powers so limited, so confined as ours.

at length death steps in, and gently puts an end to their hopes and sufferings at the same time.

It must not be expected that the symptoms keep the regular order in which they are placed here; on the contrary they vary in almost every patient. In treating the subject at large, the principal and leading traits of the disease can only be given; to have entered into minute particulars would only serve to swell the work without instructing the reader. In some cases the disease makes a rapid progress, and hence is termed a galloping consumption. In others, and that the greater number, it is much slower. The duration is in proportion to the youth and strength of the sick, season of the year, and many other considerations, from six months to two years. In some cases the fever and other symptoms, are much more violent than in others, depending upon the habit of body and tone of the muscular fibre; and therefore in males the symptoms run higher than in the other sex; and in the latter, the disease usually makes a greater progress before it is discovered, frequently beyond the possibility of assistance.

Of this I have met with many melancholy instances, and not a few of them at boarding schools; where the governess, from a well-meant caution of not alarming the parents, and considering the complaint as a common cold, neither acquainted them, nor called assistance till the disease was confirmed. Let me therefore caution parents and all who have the care of young people, not to neglect coughs and disorders of the breast, nor while such complaints remain, ever to consider them in safety; lest by thinking them of no importance, and pouring down greasy emulsions, and a profusion of palling sweets, they sacrifice that time which might be employed in pursuing a judicious plan of cure, and sow the seeds of lasting affliction in their own minds.



## CHAPTER II.

*Common cause of Phthisis—effects of cold and moisture—change that takes place in the exhalent vessels—lymph convertible into pus—what has been termed bronchial polypii—not a glandular disease—extravasated blood does not become pus—obstructed glands not the origin of Tubercles—how formed—to distinguish pus from mucus—production of pus.*

THE task would be difficult, perhaps impracticable, to account satisfactorily for every symptom attending consumption of the lungs. Like many other diseases, its violence and progress depend upon circumstances, which from our limited knowledge in the laws and operations of the animal œconomy, we cannot perceive, and on others with which we are frequently not made acquainted. Violent exercise, intemperance in eating, drinking, gratification of the passions, and affections of the mind; sudden stopping of accustomed evacuations, by cold externally applied, or drinking cold liquors when heated<sup>1</sup>, and the effects of

<sup>1</sup> Drinking cold liquor when the body is heated by exercise, may, by its sudden impression, jelly the fluids secreted for moistening the cavities.



cold and moisture, are among the most common causes of Phthisis.

The manner in which disease originates in the human body is involved in great uncertainty; and notwithstanding the labours of many learned and ingenious Physiologists, there are but few instances where we can clearly and demonstrably explain, how the alteration takes place from health to sickness, from perfect ease to exquisite pain. The subject now under consideration, although the most common cause of complaint, particularly in our changeable climate, remains still in obscurity. Perhaps from its frequency, becoming familiar to the mind both of the patient and the physician, and both being satisfied with the cause usually assigned, it has not been thought necessary to enquire whether that cause was, or was not consonant to the laws of our system. I have not the presumption to suppose it is in my power to throw any considerable light upon this matter; but as it has become part of my duty to bestow some thought upon it, the reader has a right to the result, and which I offer rather as conjecture than just reasoning.

Cold

Cold in a moderate degree, may be applied to the body without producing disease. A person immediately out of a warm bed plunges into the cold bath, where the pores receive a greater check than they can do in any other situation, with impunity. But when cold is applied in a violent degree, it occasions torpor, mortification, and death. In some instances it has acted as a sedative in such a manner, that it was with difficulty the person could be kept awake and in motion, till they reached a place of shelter.

Cold united with moisture, when applied to the external surface of the body, or by respiration to the internal surface of the lungs, produces various complaints. These effects have usually been accounted for by the stoppage of sensible, or insensible perspiration thereby occasioned <sup>a</sup>. The symptoms which succeed, are pains in the limbs,

<sup>a</sup> “Animadvertendum est, effluvia ista, quæ a sanguinis massâ per insensibilem transpirationem obligari solent, à frigore cutis speracula subito contrahente intrò verti, et in Pulmones deponi, quos irritando Tussim mox excitant.”—SYDENHAM. Tuss. Epid. p. 207.

KEIL on Animal Secretion, p. 272, found upon getting cold and a cough, that his perspiration was not diminished. An. 1738,

articulations, head, and back; forenefs in the throat with flight shivering and flushing heat. If these fymptoms were oecafioned by the retention of fo much perfpirable matter as would have been difcharged from the habit during the time of their continuance, it is reafonable to fuppofe that by opening the pores and by perfpiring freely, the effects would ceafe. This every day's experience evinees is not a fact. The fever and pains frequently increafe and continue fome time, notwithstanding the patient fhall lye, as it were, in a bath of perfpiration; till by evacuations, diluents, and antiphlogiftic remedies, they are removed. We alfo know that by the wonderful conformation of our frame, when one fecretion is diminifhed, another is proportionably increafed. In a cold frofty morning we perfpire lefs, but the renal difcharge is augmented. A fream of cold air from an aperture in a door or window, will oecafion a fixed pain in a particular muscular part, without affecting the general habit, as a ftiff neck, or pain in the fhoulders. I have feen the glands in one fide of the throat fwelled and inflamed by a momentary blaft of cold air, without any other

other symptom succeeding. To suppose a local check to perspiration, will not sufficiently explain these effects.

Perhaps the exhalent vessels that secrete the fluid, serving to moisten the interstices of the muscles and muscular fibres, may be so affected by cold partially and suddenly applied, as, instead of a clear transparent lymph, to secrete a fluid so viscid as not readily to be absorbed by the lymphatic system; and by its remaining some time, occasions that stiffness and soreness in the parts which is so constantly felt. This theory would seem to acquire some degree of support from the means that are efficaciously used in removing those complaints, being the most proper to thin inspissated fluids, and make them fit for absorption, namely, the warm bath, fomentations, and moderate warmth applied in any way <sup>3</sup>.

I must

<sup>3</sup> This idea of the exhaling vessels being so acted upon by disease, as to excrete a fluid infinitely more viscid and thick than they do in an healthy state, would seem probable from the sensation termed thirst. When we have eaten salted or high seasoned food, used violent exercise, or been exposed to great heat, either externally or internally, the saliva and lymph secreted in the mouth and fauces,



I must own, I am not perfectly satisfied with this or any other theory that has occurred to my mind upon the subject, but least of all with that commonly received, nor am I disposed to enter more fully into the question; a disquisition of that nature, however connected, not being essentially necessary to the prosecution of my design.

Into every cavity of the body a great number of exhaling vessels open; they secrete a fluid which preserves the parts moist and smooth, and by lubricating the surfaces of the different viscera, enables them to move on each other without friction or injury. In the lungs the exhalent vessels serve a nobler

fauces, is not only lessened in quantity but also greatly thickened; and instead of a clear transparent fluid, becomes viscid and gleuy, so that in the language of the facetious knight, we may be said to "spit sixpences." Were this effect to take place only when we have been exposed to heat or fatigue, we might suppose it arose from the dissipation of the moisture by perspiration, but it happens most frequently from diet, even when we drink more than common, and continues some time. Does not this proceed from the stomach being acted upon, and thence communicated up the oesophagus to the fauces, constringing the excretory ducts of the salivary glands, and the exhalent vessels of the mouth? Some passions of the mind will suddenly produce similar effects.

pur-



purpose; they become excretories, and secrete a large quantity of lymph, which is dissolved and carried off by the air in respiration. “ The apertures of these vessels, “ from any cause exciting inflammation, “ may be so altered, as to excrete a viscid “ matter somewhat similar to the sizey “ crust on blood; with which the cavities “ of the body and even the inside and outside of the heart, have been found lined; “ and this fluid must have the property of “ coagulating immediately after being secreted otherwise in the heart, the flux of “ blood must have washed it off. It is “ highly probable also, that from disease, “ these vessels have the power of changing “ their lymph into pus; as large quantities “ have been found in cavities of the body, “ without any appearance of ulceration or “ abscess, from whence it would have proceeded <sup>4</sup>.” The exhaling vessels in the lungs opening in the air vesicles, having their apertures so altered as to produce this viscid lymph, a less quantity will be secreted; and if from the effects of cold and moisture

<sup>4</sup> See HEWSON on the lymphatics.

the insensible perspiration on the surface of the body should be obstructed, and a larger quantity thrown upon the lungs, they will be loaded and oppressed; their parynchymatous substance will become more dense and inelastic; the diameters of the various branches of the pulmonary artery and vein, will be diminished by its pressure, and consequently the circulation of the blood through this organ will be impeded.

When the lungs are in this state, the patient will breathe quick and with difficulty; they will feel pain and weight in different parts of the chest, and a general foreboding and sense of fullness upon a deep inspiration. The ramifications of the bronchia will be lined with this viscid lymph, which by irritating their sensible membranes will occasion frequent coughing and inflammation. The cough indeed, in these cases is truly alarming, for it continues incessant till the offending matter is discharged; and there have been many instances of this matter being so viscid and compact as to retain the form of the cavities into which it had been secreted, and till its nature was investigated,

tigated, acquired the name of bronchial polypi <sup>5</sup>.

On a recent cold we perceive the matter is expectorated with difficulty, little in quantity, white, viscid, and tasteless. In a short time as the inflammation and other symptoms abate, it changes to a yellow colour, disagreeable taste, and is discharged with ease in greater quantity. This phlegm is so like pus, that it is not to be distinguished without a narrow inspection, and examining it in the manner that will be hereafter explained. And the numerous cures of confirmed consumptions which we sometimes hear of, probably owe their credit to the mistaking the one for the other; for was the disease really and bona fide so frequently and so easily cured, this work would have been perfectly unnecessary.

The great facility with which a common catarrhus cough and yellow expectoration

<sup>5</sup> The late Dr. WARREN has published a curious case of this kind in the *Med. Transf.* Vol. I. An. 1772.

See also *Philos. Transf. Ab.* Vol. 3. p. 68.

The liquor in the Pericardium has been found jellied to such a degree, as to bear cutting with a knife. M. DU MARTELL. *Ab. Phil. Transf.* Vol. 3. p. 69.

Other instances may be seen in Morgagni *Sed. et caus. Morb.* lib. 2. *Epist.* 21. *Art.* 20.

may be represented by the designing empirick, to be a confirmed consumption, has given celebrity to certain nostrums, which they by no means deserve: and their authors have procured attestations of their efficacy from persons of rank and fortune, whom, with the best intentions, are thereby made the innocent instruments of fraud and imposition.

Is it not probable, that such a state of the exhalent vessels as we have been describing, takes place in the whooping cough, where the fits are violent, and continued till a viscid glary phlegm is discharged? This would seem probable from the relief that is experienced by frequent vomiting, in discharging the matter easily, and by change of air; for as there is apparently a considerable degree of spasmodic affection, or such a disposition of the nerves as render the lungs extremely susceptible of irritation; inspiring a purer, a more dephlogisticated atmosphere, will prove the most successful application. I shall subjoin a very singular instance of this kind <sup>6</sup>.

IF

<sup>6</sup> A gentleman subject to frequent attacks of a spasmodic asthma, was seized with it violently in the summer of



If disease produce such a change in the apertures of the exhaling vessels and viscosity in the lymph, the same cause continuing to act, may probably increase that viscid quality till it shuts up their extremities, and constitutes the small granules, every where found in diseased lungs, termed tubercles. Almost every author who has written upon the pulmonary consumption has supposed tubercles to originate from diseased

1783, when in the neighbourhood of Park Place\* near Henley, Oxfordshire. His breathing was extremely laborious, and it was with much difficulty he walked a few paces supported by a friend, in the gardens to the mouth of a subterraneous passage, which he entered. He had not advanced many yards, when to his great surprise he found himself perfectly well, and the oppression entirely removed from his breath: although before he entered, he could not walk three steps without stopping to breathe, he now actually ran the whole length of the passage, without the smallest difficulty or inconvenience. When he came into the common air, his difficulty of breathing returned, and continued the usual period. He experienced similar relief, in a less degree, in a kind of cave cut out of a chalk hill at Ingerest in Kent.

\* The passage is cut through a hill consisting entirely of chalk and flints, 170 yards long, 7 feet high, and 5 feet wide. Thickness of the hill above the centre 22 yards; direction near N. and S. the N. end elevated. I examined it in December, when the thermometer in the open air was 38; in the centre of the passage 43.

D

lymphatic



lymphatic glands in the substance of the lungs<sup>7</sup>; and that a regular process of swelling, inflammation, suppuration, and rupture took place in them similar to a phlegmon or bubo, on the external parts of the body. This being taken for granted, they have termed a consumption a glandular disease, and consequently that as most glandular affections were, or might become more or less scrophulous, they suppose that all pulmonary consumptions were of that kind or nearly so. Thus a superstructure is built upon a foundation taken for granted, but never proved, which being removed, the other falls to the

7 “ Phthisis pulmonalis, oritur obstructio sæpissime in  
 “ glandulis per pulmonis substantiam disseminatis, vel  
 “ arteriis bronchialibus: aliquando etiam in minutissimis  
 “ arteriæ pulmonalis vasculis.”—HOME Princip. Med. p.  
 134. An. 1762.

“ Une lymphe trop dense qui a dégénéré de son caractère, engorge les glandes & les points glanduleux qui sont  
 “ très-multipliés dans les poumons; il en résulte des  
 “ abcès, des tubercules qui s’enflamment successivement,  
 “ forment des ulcères dont les uns resorbés en partie dans la  
 “ masse des liquides la met dans le désordre, la pervertit  
 “ & produit un marasme général qui bientôt débilité  
 “ toutes les fonctions & les éteint.”—Traité de Phthisie  
 Pulmonaire par Mr. RAULIN, M. D.

Paris 1782. 8vo.

ground

ground of course. That people with a scrophulous habit of body or with their glands swelled and indurated, may have at the same time a pulmonary consumption, does no more prove the disease to be scrophulous, than it would be proved cancerous, should the patient be afflicted with that dreadful malady. Whoever will examine the lungs when diseased with tubercles, not suppurated, will find them sown so thick, that were they glands, the whole substance would be of that nature, which we are convinced it is not by examining the organ in a sound state. The existence of lymphatic glands dispersed through the substance of the lungs has never yet been proved, nor even attempted<sup>8</sup>; it is one of those general assertions we so frequently meet with in Medical authors, misleading the student and deceiving the practitioner. From my own enquiries into

<sup>8</sup> “ Sometimes, but rarely, the glands of the absorbents  
“ are found within the substance of the lungs. They  
“ are constantly found, however, at the root of the lungs  
“ both before and behind the bifurcation of the Trachea,  
“ in the two bronchia, they are commonly of a blue colour.  
“ (p. 69.)—CRUIKSHANK *Anatomy of the Absorbent Vessels*, 4to. 1786, p. 128.

this matter I am disposed to think there are none; and the more so, as I am supported in the opinion by a late eminent and ingenious anatomist<sup>9</sup>. In all nature's operations we find a striking simplicity and conformity. If there were lymphatic glands there would be lymphatic vessels, visible by their magnitude and number, running from one to the other, and entering their substance as they do in every other part of the body; but in the substance of the lungs the lymphatics are seldom found, and for the best of all possible reasons, that there is no use for them; the air in respiration performing the office of absorbents. On the *surface* of the lungs, the lymphatics are very thickly spread, forming a beautiful network, when injected with quicksilver<sup>10</sup>.

9 HEWSON on the lymphatics.

10 " The large lymphatics of the lungs have something very peculiar in their appearance, and in general resemble a fishing net: the areolæ of this larger net work are filled up with a finer and more intricate net work of smaller lymphatics; so that the whole external surface of the lungs may, in a very successful injection, be covered with lymphatics."—CRUIKSHANK Anat. Abs. Vessels, 4to. p. 8. An. 1786.

Persons

Persons of a constitution tending to consumption, are sometimes attacked suddenly with spitting blood from the lungs, and it is a very generally received opinion that Phthisis Pulmonalis must necessarily follow. This opinion is founded on the supposition, that blood emitted from a ruptured vessel in the lungs, will either be extravasated in its substance or remain in the air vesicles, and in time become acrid, or be converted into pus, forming what is called an ulcer in the lungs. The whole of this theory I believe to be unfounded. We frequently see Hæmoptysis take place to a considerable degree, and many times repeated, attended as it always is, with cough and some degree of fever, without being succeeded by purulent expectoration, or the hectic fever, inseparable from Phthisis. It sometimes indeed happens in peculiar circumstances, that blood is found diffused through the substance of the lungs<sup>11</sup>, but without any appearances of being converted into pus.

The

<sup>11</sup> On examining the body of a man who died of an Hæmoptoe after three weeks illness. "In the lungs both sides of his chest were large grumes chiefly to-



The prejudice against opening dead bodies is so strong and so generally felt, that it is very seldom we are permitted in this or any other disease terminating fatally, to ascertain the situation of the parts principally affected. I had lately an opportunity of examining the lungs of a person the day after he died, in consequence of a long standing disease in the heart and large arteries, hydrops pectoris, &c. Some days before death he spat frequently several ounces of pure florid blood at a time. But although the greatest attention was used in tracing the ramifications of the bronchia by an experienced surgeon, so far from discovering the ruptured vessel which I was very anxious to see, no grumous blood

“ward the back, an universal echymosis was visible  
 “through the membrane, and above a pound extravasate  
 “in the cavities; it is observable, that no part of the  
 “blood extravasated here had the appearance of corrup-  
 “tion.”

“But from the appearance of the lungs in this  
 “subject, wherein was a total confusion of  
 “fibres and cruor, the hæmoptoe was rather  
 “consequential of a dissolution of the fibres,  
 “which let the blood extravasate as well  
 “into the interstices of the vessels as into the  
 “chest and bronchiæ.”—CLOSSY Obs. p.

56. An. 1763.

was

was found, and only small particles mixed with the clear mucus he was used to expectorate. The lungs were perfectly sound. On moving the body, florid blood flowed from the mouth.

That ulceration in the lungs originates from the red particles of the blood obstructing and filling up the smaller vessels forming what is called an error loci, and by inflammation and suppuration becoming pus, I believe is very generally given up. For wherever red blood is extravasated, either into the cellular membrane or cavities of the body, if it has not access to the common atmosphere, does not become pus or even putrify. The induration in the limbs of scorbutic patients from extravasation, and the echymosis formed by some species of aneurisms, are proofs of this among many others that might be mentioned <sup>12</sup>.

From

<sup>12</sup> " That pure blood shed from its vessels, by means of external violence, and kept from the air, will not turn to, or become matter, is, I think, proved incontrovertibly by every day's experience, in many instances, in aneurisms by puncture, in retained menses by imperforate Vaginæ, and in all echymosis."—POTT'S Works, 4to. Ed. p. 24. An. 1775.

From the foregoing considerations I hope it will appear reasonable to suppose, that tubercles originate from the extremities of the exhalent vessels being obstructed by the viscosity of their contents; and this opinion will appear still more evident from the following minute description of them; the truth and accuracy of which I have many times experienced in the examination of diseased lungs.

“ Tubercles are found, on dissection of  
 “ those who have died of this disease, of  
 “ all sizes from the smallest granules, to the  
 “ bigness of a horse-bean, and commonly  
 “ in clusters. On cutting into them they  
 “ appear of a white smooth cartilaginous  
 “ substance. In the smallest, no cavity or  
 “ opening appears; in those farther advanced  
 “ on the cut surface we discover small pin  
 “ holes; in those still larger are one or more  
 “ cavities containing a fluid like pus; which  
 “ being cleared off, in the bottom is per-

In a case of imperforated Hymen, where flux of blood was evacuated “ the blood discharged was not putrid or  
 “ coagulated, and seemed to have undergone no other  
 “ change, after its secretion, but what was occasioned  
 “ by the absorption of its more fluid parts.”—DENMAN  
 Intr. to Midwif. Vol. 1. p. 77. An. 1788.

“ ceived

“ceived several small openings or holes;  
“through which on pressing the tubercle,  
“matter issued, similar to that contained  
“in its cavity. The larger tubercles, when  
“emptied of their contents, appear like a  
“small capsula, into which entered a branch  
“of the aspera arteria.

“When the tubercles increase they are  
“termed vomicæ. These are also of vari-  
“ous sizes, from half an inch to two or  
“three inches diameter; and are usually  
“of an ovi form. When found entire,  
“their contents are white, yellow, ash  
“coloured, greenish, and sometimes foetid  
“matter; and when ruptured, more or  
“less redish. Several branches of the aspera  
“arteria are found opening into these vo-  
“micæ; and they also communicate with  
“others that lye contiguous: the apertures  
“of the latter, are ragged and irregular;  
“of the former round and smooth. The  
“large vomicæ are usually found empty,  
“but on pressing the lungs matter issues  
“into the bronchia. The branches of the  
“pulmonary artery and vein running upon  
“the vomicæ, are found much contracted  
“and sometimes filled up with a fibrous  
“substance;



“ substance ; their pendulous ends hanging  
“ loose in the cavities of the vomicæ, com-  
“ pletely shut up and covered with a thick  
“ slough. By this wise dispensation, we see  
“ the reason why hæmoptoe does not  
“ more frequently happen, when so great  
“ a part of the substance of the lungs is  
“ destroyed. And also, when it does take  
“ place, in what manner the mouths of the  
“ bleeding vessels are shut up again.

“ The parts of the lungs contiguous to  
“ the vomicæ are found inflamed, more or  
“ less solid, and impervious to air blown  
“ into the trachea; for when the other  
“ parts are thus distended, they remain  
“ depressed; nor is air admitted into the  
“ vomicæ, or at least in very small quan-  
“ tity.

“ When the lungs are partially affected,  
“ the upper and posterior parts are always  
“ diseased, and the sound portion is the  
“ inferior and anterior. When the affec-  
“ tion is general, the superior is the worst;  
“ and the left-side is generally found more  
“ diseased than the right.

“ Wherever tubercles or vomicæ are  
“ found, they firmly adhere to the parietes  
“ of

“ of the lungs near them ; by which means  
“ a communication between their cavities  
“ and that of the thorax is entirely pre-  
“ vented <sup>13</sup>. ”

We have observed, that the exhalent vessels being affected by disease in different degrees, are capable of changing their contents from a pure watery lymph to a fluid so viscid as to coagulate immediately on being secreted, and also to convert that lymph into pus of various qualities: for pus in its natural state secluded from the air is smooth, bland, inodorous, composed of globules resembling those of milk ; but according to the kind of inflammation and being

<sup>13</sup> Dr. STARK's MS. Med. Commun. 1785.

When I was preparing the first edition of this work for the press, not being well acquainted with book-making, I was at a loss how to distinguish an extract, or rather abstract (not being either *verbatim* or in the *arrangement* of the original) taken from a MS. not known, nor as I had been informed intended to be known to the public. On consulting with a medical friend, we agreed that the name at the bottom of the page would fully point out whence it was taken. But though it did so in general, and was noticed as such by the author of the Med. Journal for Dec. 1783, yet in strict propriety it should have been marked with commas as it now is,

exposed

exposed to the air may become foetid, thin, and sanious, as we find it in phagedenic and cancerous ulcers <sup>14</sup>. If then tubercles are formed by obstruction in these vessels by the viscid state of the lymph, and if pus is produced by secretion and not by fermentation, as has been supposed; it seems probable that the small pin-holes perceived in the substance of the tubercles, are the apertures of the exhalent vessels; and that the pus found in them and issuing out upon pressure, is the lymph changed into that fluid. “ And  
 “ if pus in these cases is produced merely by  
 “ secretion, so likewise it would seem pro-  
 “ bable, that even in abscesses, where there  
 “ is a loss of substance, it is not the melting  
 “ down of the solids, that gives rise to the  
 “ pus, but the pus being secreted into the  
 “ cellular membrane, from its pressure, and  
 “ from other causes, deadens the solids, and  
 “ then dissolves them, which is confirmed  
 “ by observing, that even a piece of flesh  
 “ meat, if put into an ulcer and covered up  
 “ is soon destroyed and melted down by the

<sup>14</sup> ABERNETHY'S Surgical and Physiol. Essays, 1793.

“ pus,

“ pus, which is thereby rendered more  
“ foetid <sup>15</sup>.”

In this manner we can reasonably account for the substance of the tubercles being consumed by the pus that issues into them; and by the continual secretion, their size is increased till they burst into the ramifications of the bronchia. By their enlargement the parynchematous substance of the lungs will be compressed, hardened, and afterwards, melted into pus.

During the last century, almost every author on diseases of the lungs, from Morton in 1689, to Professor Cullen in 1784 (*First Lines*, §902) have described abscess and ulcer in and upon the substance of the lungs, as taking place in the same manner as those upon the surface of the body, occasioned by inflammation, phlegmon, carbuncle, or any other cause producing induration, suppuration, with loss of substance in the part affected: and that in this manner an abscess in the lungs is formed, bursts into the bronchia and is expectorated. I will venture to say such a process is not pursued by nature in *Phthisis Pulmonalis*. The only collection

<sup>15</sup> HEWSON on the Lymphatic System, chap. vii.



of matter formed in the lungs, is that in a vomica, which opening into the bronchia, is expectorated. But this may subsist many years, even during a long life, discharging at intervals without being attended with any symptom of consumption. I must intreat the reader will deliberately and cautiously weigh this distinction, because upon this hypothesis, the general practice of giving gums, balsams, pectorals, &c. has been established; and which I shall endeavour to prove are useless and ineffectual.

As the most certain prognostic in this disease is formed from the quantity and quality of the matter expectorated, it will be necessary to consider with attention that part of our subject.

In the beginning, the matter spit up consists merely of the mucus lining the trachea, mixed with a considerable quantity of air, as appears by putting it into the receiver of an air pump, and exhausting the air. As the disease advances the expectoration gradually changes in quantity, colour, consistence, smell, and taste; and becomes a thick viscid matter, of an ash colour, slightly tinged with green, sometimes with blood, discharged.

ed in small spherical masses, resembling pus. It has been said that matter spit up “ from  
“ a glandular suppuration, or erosions of the  
“ lungs, has commonly a sweetish taste;  
“ and that from a cyst is foetid and disagree-  
“ able<sup>16</sup>.” As we have endeavoured to prove,  
that there are few lymphatic glands in the  
substance of the lungs, the first part of this  
criterion will vanish; and it seems probable  
that the difference in the quality of the pus  
depends upon the state of the inflammation,  
size of the vomicae, and the time it has been  
retained.

When pus or matter is mixed with water  
and agitated in a basin with a whisk, it  
easily mixes, but on standing a few hours a  
granulated matter precipitates to the bot-  
tom. Mucus is with more difficulty united  
with water, requiring longer agitation, but  
when uniformly mixed it remains so, and  
after standing any given time, no precipitate  
will appear upon pouring off the ropery  
fluid<sup>17</sup>.

In

<sup>16</sup> GILCHRIST on the use of sea voyages. p. 130.  
An. 1756.

<sup>17</sup> HIPPOC. Aretæus Cap. Celsus, &c. They used  
salt water.

In making these trials some caution is necessary that we may not be deceived, and therefore it should not be trusted to the patient or their attendants. Sometimes hard masses of phlegm, frequently of a greyish colour, are spit up which will sink in water, but when dissolved will float. Matter or pus when mixed with much mucus or phlegm will float in water, being supported by the mucus, in which there is air, but when agitated will precipitate. It is necessary that the matter for the experiment should be part of what is spit up during the night or early in the morning. For when all the matter secreted in the night has been discharged in the morning, either by a vomit or pumped up by incessant coughing, what is brought up during the day will be scarce any thing but white mucus, without any pus, or perhaps a very small portion now and then.

CH. BENNEDICTI Tabid. Theat. p. 104. An. 1656.

VAN SWIETEN. Comm. Aph. BOERH.

MORGAGNI sedibus & causis Morb. lib. 2. Ep. 22.  
Art. 28. An. 1762.

C. DARWIN's Experiments.

CULLEN's first lines of practice, vol. 2. § 856. Ed. 4.  
An. 1784.

Dr. STARK, Med. Commun. An. 1785.

I have

I have seen the expectoration of a person in the last stage, during several hours in the middle of the day, without the least appearance of purulent matter. Had this been taken for the experiment, it is obvious what a fallacious conclusion must have been drawn from such premises.

This is a singular circumstance and not easily accounted for; it would seem that rest was necessary for the secretion of pus, and that a certain degree of tension was removed from the vessels during night; or does the agitation of the mind, exercise or speaking, &c. in the day-time prevent its being secreted into the bronchia? An author of some reputation on this subject<sup>18</sup> seems to have been deceived by the matter spit up in the day-time, and says there is no danger when the spit in the day is white, whatever it might be in the night. Both to the physician and patient it is of great moment that

<sup>18</sup> “ Si interdiu sputa semper depurata projiciantur,  
“ licet noctu malè colorata et constituta videantur, nil  
“ desperandum: de die etenim sputa bene subacta et alba  
“ sanitatem reducem pollicentur.”

CHRIST. BENEDICTI Tabid. Theat. p. 122. An.  
1656.



no deception takes place in this circumstance ; but if matter or pus is spit up, be it by night or day, there can be no doubt but the disease is a confirmed Phthisis Pulmonalis.

There is no absolute criterion by which we can determine when tubercles are formed in the lungs ; that is a desideratum which future observation may perhaps ascertain. When the cough is violent, continued with short intermissions, particularly at night, preventing sleep, with a hard clinking sound, and when a viscid phlegm is discharged, they are to be suspected. But when the cough is accompanied with rigors succeeded by fever, and matter spit up that precipitates in water, we have no difficulty in pronouncing tubercles completely formed, perhaps vomicae, and therefore the disease is confirmed.

Even when there is no appearance of pus in the expectoration, should the hectic fever be established with regular remissions, accessions, and morning sweats, although gentle, I have no hesitation in pronouncing the existence of tubercles. In the very early period of the disease, there is much difficulty

culty in forming a decided opinion; but I am disposed to trust principally to the hectic fever, which will be found much sooner than is usually suspected. In some cases of Phthisis which have terminated fatally, very little pus has been perceived in the expectoration during the whole progress of the disease. In an instance of this kind, I had the liberty of examining the body. The lungs were little reduced, but they were thickly studded with tubercles, from the size of a millet seed to that of a large pea; on cutting their substance, and pressing the surfaces, pus issued out from numerous small pores, or pin-holes in the tubercles. It was very singular that this patient never experienced any difficulty of breathing in walking, talking or singing. When first I visited him, a short time before his death, he talked long and loud, and observed himself, that his lungs could not be injured. His cough had not been so violent as usual, but he got no natural sleep, complained of great uneasiness, without any fixed pain, and the fever kept its regular periods, with morning sweats. His appetite was good to

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the

the last, and his bowels were very little affected <sup>19</sup>.

A late author, not more esteemed for his great and extensive learning, than for his mild and humane disposition has said, “ That as long as the appetite is good, and “ the sleep refreshing, I do not conceive the “ disorder can make any dangerous progress. “ I mention these circumstances, rather “ than the absence of fever, pain, or dispo- “ nœa, because these symptoms, whenever “ they come on, do unavoidably affect “ either the sleep, or the appetite<sup>20</sup>.” When the complaint is in so early and simple a state, unfortunately the physician’s assistance is seldom required.

<sup>19</sup> Dr. AL———R died at Margate, September, 1788.

<sup>20</sup> MUSGRAVE, *Gulstonian Lectures*, p. 99.

CHAPTER III.

*The hectic fever as described by authors—fever in early period of phthisis—pulmonary hectic—supposed to arise from absorption of matter, and termed putrid—examined and refuted—acrimony examined—hectic void of putridity.*

BEFORE I enter into a description of the hectic fever attending consumption of the lungs, it will be necessary to enquire what has been generally understood by that term, lest I fall into the error I have endeavoured to expose, namely, that of using general and undefined terms, to which no precise and determined signification is associated.

It has appeared to me that the elder authors, and some of the moderns of high reputation, have not confined the hectic fever to diseases of the breast, but describe it to be an habitual fever of the low kind arising from various causes. If I can make this evident to the reader's satisfaction, it will in some measure account for the great diversity in the methods of treating the disease, that is the subject of these sheets. Did medical terms, like cognomens, merely serve to distinguish



tinguish one disease from another, it would not be of great importance whether they were or were not justly applied; but they have a greater influence in practice than is usually imagined. The prescription is sometimes adapted to the name, instead of the symptoms of the disease. In the fever attending Phthisis, this has fatally been exemplified, as will be made appear when we enquire how far it deserves the name of *febris putrida*.

That the ancients understood the hectic to be a continued fever, will be evident from the works of eminent authors <sup>1</sup>. And one  
of

<sup>1</sup> “ In febribus autem hecticis nunquam aliqua accessio  
“ conspicitur, sed perpetuò cernitur una febris continua,  
“ ut illa quæ synochos appellatur. Ea tamen quandam  
“ veluti flammam plurimam admoventi manum possidet  
“ occurfantem: pulsûsque ædit celerrimos, frequentissi-  
“ mos, atque maximos. In hecticis autem febribus,  
“ neque multa occurrit caliditas, pulsûsque tatò minores,  
“ rariores, atque tardiores sunt iis, qui per synochos fiunt,  
“ quantò etiam caliditas ipsa est minor. Commune itaque  
“ omnibus hecticis febribus est, quòd pusillæ, & semper  
“ à principio usque ad finem æquales existant. Proprium  
“ autem est tabidarum, siccitas. Nam sine siccitatē  
“ sæpius hecticæ febres consistunt, quum minimè in tabem  
“ degenerant. Jam cæteras febres quæ incompressas  
“ accessiones

of them particularly distinguishes it from continual and putrid fevers, by its being without accession or remission <sup>2</sup>.

English.

“accessiones fortiuntur, omnino compressio aliqua committatur, dum cibus ingestus fuerit in accessionis principio. Hecticis autem, post cibum assumptum, quendam velut inconcussum insultum fieri contingit, qui tamen non est accessio, sed incrementum caloris, atque promotio pulsus in magnitudinem atque velocitatem, qualis cuicunque alteri post cibum solet accidere.”—  
GALEN. diff. feb. l. 1. cap. 9. Ed. A. Lacuna. An. 1643.  
Ibidem. - - 1. 2. cap. 9.

“Quoties igitur vel ex lassitudine, vel ira, vel pluribus curis, vel vigiliis, vel tristitia, vel longa inedia, vel univervis unà coeuntibus, siccatum corpus est, ac febris invasit, quæ et aridam reddit cutem, et igneum calorem refert: utique hunc talem timor est hectica febris correptum iri, potissimum in æstate, ac coeli statu sicco calidoque.”

Ibidem de methodo medendi. lib. x.

Ibidem de marasmo. lib. i.

<sup>2</sup> “Quum immodicus fervor humiditati substantiali quæ solidis particulis inest, supervenerit, non tamen hæc dissipata fuerit, verum salva adhuc in eis perseveret, semperque ferveat, et nullam declinationem habeat, tunc hujus febris speciem *hecticam* nominant.”

“Quod si febris intervallum prorsus nullum habeat, adhæc neque obscurior aut vehementior fiat, sed eodem modo firma ac constans, hecticam hanc esse putato. Nam in putridis et incrementum et imminutio

English authors of the last century<sup>3</sup>, describe the hectic fever in a similar manner.

“accidit: augmentum quidem in statu, imminutio autem in declinationibus.”

“Etsi vero continentis hac ratione similes hecticis videantur, quod et ipsæ nec augmentum nec imminutionem recipiunt: attamen caloris qualitate et pulsibus ab illis discernuntur; siquidem continentium calor non est siccus et acris, quemadmodum in hecticis, sed etiam in summa cute magis apparet. Ac in continentibus pulsus sane magni et celeres existunt, in hecticis autem exigui et obscuri. Hoc sane modo hecticas ab omnibus ex putridine ortis discernere poteris.”—ALEX. TRALLIAN. Ed. Alb. Haller. lib. xii. cap. 4. An. 1772.

3 “A hectic fever is constant, without accession or paroxysms as other fevers; save only that an hour or two after meat, the heat is greater and the pulse quicker which is common to all that have this hectic fever.” MAYNWARINGE on Consumption, p. 58. 2 Ed. An. 1668.

“An hectic fever implies a two-fold sense: 1. It is taken for any confirmed, fixed, and durable fever, admitting of no easy cure, or rather a fever that is grown *habitual*, in opposition to a *schitical* fever, which being but lately arrived, is easily expelled, as a diary or putrid fever. 2. It is more generally understood for a fever in the solid parts, into whose penetrailes and essential principles insinuating, is there as it were planted or rooted, and consequently proves the most stubborn to cure of all other diseases.”

“On the other hand, if we consider it as a *Morbus in fieri*, then it must have its dependence upon purulent  
“steams

ner. One of them goes farther, and says,  
 “ This I may safely conclude, there is  
 “ many a pulmonic consumption, without  
 “ the evident signs of the hectic fever,  
 “ viz. a sharp equal heat over the whole  
 “ body, a glowing of the extremities an  
 “ hour or two after meat, a quick low  
 “ pulse, &c. without which I can attest,  
 “ I have found several consumptives, though  
 “ for what I knew, there might very pro-  
 “ bably have been a latent hectic.—Hence  
 “ you may extract what I intend by an  
 “ *hectic fever*, namely the *innate heat* kindled  
 “ into a destructive fire, violently absorbing  
 “ the oily *radical moisture*, through the ap-  
 “ pulse of saline steams, which through  
 “ their contrariety to the balsamic mixture,  
 “ excite a fervent fermentation in this latter,  
 “ like oil of vitriol, poured upon oil of  
 “ tartar, or water on lime <sup>4</sup>.” This last is  
 a cu-

“ steams dispersed from the heart, together with the blood  
 “ to the parts, where arriving, they cause a kind of heat  
 “ and glowing in the substantial principles, whereby they  
 “ are set in fire, until the purulent acrimonious steams  
 “ are dissipated.”—GIDEON HARVEY *Morbus Anglicus*,  
 p. 7. 2 Ed. An. 1674.

<sup>4</sup> Ibid. p. 69.

“ Atque



a curious specimen of the pathology of those times.

The judicious Morton, who appears to have been better informed on this subject than any of his cotemporaries that have come to my hands, and whose theory and practice has been almost implicitly followed, and is even used at this time by many

“Atque primò de pulsu: incipiente tabe, dum nulla  
 “febris præter hæticam adfuerit, præter naturalis calor  
 “sicuti continuus est, et mitis; ità etiàm pulsus, pro  
 “gradu febris, aliquatenùs celerior est quàm par sit;  
 “ferè tamen semper eundem tenorem servat, nisi quòd  
 “à cibo, ut calor febrilis, ità etiam, pulsus celeritas fa-  
 “ciliùs sentiatur. Et quidèm nonnulli Phthifici frigi-  
 “diores, et phlegmatici, nullo alio tempore, vel pulsus,  
 “vel temperamenti errorem sentire solent.”

Ubi verò, progressu morbi febris putrida intermettens, à pulmonum purulentia, supervenit, pulsus est admodum varius; manè scilicet citra paroxysmum, aliquatenùs celer, et debilis; celer à dispositione sanguinis hæticè febrili; debilis verò ab exhausto, et depauperato jam totius corporis habitu, præ reparationis defectu ex alimento debito sufficienti ministrandæ: in paroxysmo verò est celer et fortis; celer à febre hæticâ, fortis à præsentì orgasmo, sive præternaturali sanguinis agitatione. In-  
 gruen- te verò sudore, unà cum celeritate præternaturali, etiam pulsus robor sensim minoratur, usq; dùm vires à paroxysmo sequenti redintegrentur.”—MORTON Phthisiologia. lib. 2. cap. 4. An. 1689.

phy-

physicians of eminence; considers the hectic as a continued fever, with no increase but after eating. This fever he describes as taking place before the putrid fever, which originates from the absorption of matter from the lungs. He even asserts that persons in consumption, who are more cold and phlegmatic, do use to perceive nothing amiss either in their pulse or temper at any time but after eating.

A learned and eminent physician of our own time, has written expressly upon the hectic fever. He describes it as being similar to the genuine intermittent; that the "chillness is sometimes succeeded by  
"heat, and sometimes immediately by a  
"sweat, without any intermediate state  
"of heat; and the heat will sometimes  
"come on without any remarkable previous  
"chillness, and the chillness has  
"been observed to go off without being  
"followed either by heat or sweat. When  
"the sweat is over, the fever will sometimes  
"continue, and in the middle of the fever  
"the chillness will return, which is a most  
"certain mark of their power. The hectic  
"fever

“ fever will return with great exactness,  
“ like a quotidian, or tertian, or quartan,  
“ for two or three fits; but I do not re-  
“ member ever to have known it to keep  
“ the same period for four fits together.  
“ The fit will now and then keep off for  
“ ten or twelve days, and at other times,  
“ especially when the patient is very ill,  
“ it will return so frequently in the same  
“ day that the chillness of a new fit will fol-  
“ low immediately the sweat of a former.”

The learned author observes, it sometimes attacks suddenly those in tolerable health, becomes violent, and in a little time brings them into imminent danger, and though the symptoms may abate, yet it never ceases till the death of the patient. But it generally advances slowly of which the pulse always gives notice by its quickness, though it is not always to be trusted to.

“ For one in about twenty, patients with  
“ all the worst signs of decay, from some  
“ incurable disease which irresistably goes  
“ on to destroy his life, will shew not the  
“ least degree of quickness, nor any other  
“ irregularity of the pulse to the day of  
“ his death.” It will be brought on (he ob-

observes) whenever there is a great collection of matter formed in any part of the body, but particularly on inflammation of schirrous glands—Lying-in women generally die of this fever—women of the age of fifty and upwards are particularly liable to it—so are hard drinkers, “ but I never  
“ yet remember any good by the bark in  
“ this fever unattended with an apparent  
“ ulcer—At the same time I must acknowledge that I never saw any harm  
“ from the bark, in these, or indeed in  
“ any other cases, except a purging, or a  
“ sickness of no consequence, where it has  
“ happened to disagree with the stomach,  
“ or where it has loaded it by being given  
“ too fast, especially in dry boluses wrapped  
“ up in wafer paper.—But besides the fatigue, and many inconveniencies, of a  
“ journey to a dying person, the Bath  
“ waters are particularly hurtful in this  
“ fever, which they never fail to increase, and thereby aggravate the sufferings, and hasten the death of the patient <sup>s</sup>.”

<sup>s</sup> HEBERDEN on Hectic Fever, Med. Transf. vol. 2. An. 1772.



The deserved celebrity of the author, will plead in my excuse to the reader, for dwelling so long upon this performance. Not only as being the latest publication in this country expressly upon the hectic fever, but to shew the great disparity between the symptoms here enumerated, and those of the fever attending Phthisis Pulmonalis. The difference of the times of accession, the irregularity of the returns, the pulse not being at all affected in some patients, the different condition of those in whom it has appeared, and the bark being useful in it when attended with an apparent ulcer, are among the most prominent marks of its being a distinct disease from that we are about to describe.

I hope the authorities I have adduced, will evidently prove to the reader's satisfaction, that the term hectic when applied to the state of the patient, or to characterise a fever, does not always and necessarily apply to the fever attending consumption of the lungs; but that it is intended by authors of great and deserved eminence, to signify fevers of very different origin and symptoms,

symptoms, and frequently of a continued kind <sup>6</sup>.

I shall now proceed to describe the fever attending pulmonary consumptions, in such a manner, as to distinguish it from every other that has acquired the name of hectic. Its nature and origin we shall afterwards enquire into, particularly the long and implicitly received doctrine of absorption, acrimony, and putrefaction.

6 “ La fièvre lente ou hectique est une espece de fièvre  
 “ continue très-legère, peu marquëe dans son commence-  
 “ ment, peu considérable même dans une partie de son  
 “ cours, mais dont les suites n’en sont pas moins re-  
 “ doutables & presque toujours funestes.”—M. FOUR-  
 NIER, sur la fièvre Hectique Dijon, 1781. 8vo.

“ La fièvre étique n’a point d’intermittence, ses symp-  
 “ tômes sont toujours les mêmes dans les intervalles des  
 “ exacerbations, au lieu que les symptômes des fièvres  
 “ intermittentes ne se manifestent que pendant la durée  
 “ des accès. Lorsque la fièvre étique est établie, elle  
 “ l’est *constamment* jusqu’à la convalescence au jusqu’au  
 “ dernier moment du malade. La cause de cette fièvre  
 “ étant toujours la même, elle doit en général produire  
 “ les mêmes effets.” “ C’est ainsi que le chyle con-  
 “ tracte une qualité purulente, par son mélange avec le  
 “ pus des ulcères, dont la masse du sang est imbuë &  
 “ dont elle a déjà pris le caractère.”—M. RAULIN de  
 Phthif. Pulm. Paris, 1782. 8vo.

In the very early period of the disease, the fever is continued, and if it seems to increase at night, it is more from fatigue, than any other cause; a sense of chillness, or rather an increased sensibility to cold is frequently felt, succeeded by flushing heat. But a shivering resembling that of intermitting fevers, I have never observed. As the disease advances, the fever has slight exacerbations about mid-day, and continues with more or less violence till morning, when, about three or four o'clock, a gentle perspiration rather than a sweat, breaks out on the breast and upper parts of the body, to the sensible relief of every symptom. During the forenoon the patient is almost entirely free from fever till about noon, or at different times in the afternoon, when the accession takes place. In the first period of the disease, before there is any pus expectorated, and even when very little phlegm is brought up by the cough, which though frequent is not violent, the fever will be very moderate, but it will be regular, and keep the periods I have mentioned, nearly as exact as a quotidian ague. The heat and thirst not being violent, and the patients  
not

not confining themselves to a sick regimen, is the reason that the particular character of the fever is overlooked. The patients themselves are insensible or inattentive to these regular returns of fever; but the attentive practitioner may depend upon finding them, and they seem to be the first certain proof of the lungs having sustained an injury, though not irreparable.

In the progress of the disease, we observe the violence of the fever augmented, the morning sweats more profuse, the remissions although distinct, yet shortened in their duration; and the pulse even then preternaturally quickened. I have often thought that in the advanced period of the disease, there was a fever always present in the habit, and another fever superadded to it, attacking regularly by fits; the first proceeding from the general inflamed state of the lungs, and the other from a cause we shall attempt to explain in the sequel.

In the last stage, when the diarrhoea has taken place, we find the heat and sweats diminish, but the pulse remains small and quick, seldom under 120 or 130 beats in a minute. This is not a bad criterion of the



fatal tendency of the disease, notwithstanding the seeming abatement of the symptoms, the increase of appetite, and what is with difficulty resisted, the patients themselves being convinced they are better. The feelings of the sick in most other disorders, may be relied on with tolerable safety, but in this, they are fallacious, and not to be trusted.

In order that we may distinctly ascertain this fever from every other, commonly denominated hectic, I shall hereafter distinguish it by the name of pulmonary hectic.

Authors, with few exceptions from the days of Morton to the present, have agreed in attributing this fever to the absorption of pus or purulent matter, into the circulation, from ulcers, or abscesses in the lungs, and hence have styled it a putrid fever. This phrase, *putrid fever*, is very extensive in its signification, for all fevers affecting the vis vitæ have been so denominated.

The effect of putrefaction upon animal matter is to destroy that attraction of cohesion by which its particles are kept in union, and thereby resolve its component parts  
into

into their first principles, earth, water, salt, and oil. If this shall be allowed a just definition, it will be evident that putrefaction generally taking place in the fluids of the human body, is absolutely incompatible with life.

That the terms putrid and putrefaction, according to the common acceptation of these words, can ever with propriety be applied to the circulating fluids, in any disease, much less in that under our present consideration, notwithstanding the high authorities<sup>7</sup> with which that opinion is supported, and the very general acceptation of the doctrine, I must with all deference

7 “ And here I must observe, that, in all fevers of this nature, (putrid pestilential) the blood is always found too much broken and dissolved, and at length becomes highly acrimonious, and as it were sanious and putrid.”—HUXHAM on Fevers, p. 299. An. 1757.

“ That the juices are already inflamed or putrified, acrimonious, or arsenic, and that the solids and intellectual organs are spoiled, relaxed, or putrified.”—CHEYNE Dis. body and mind. p. 211. An. 1742.

ABERNETHY's Surg. and Phys. Essays, 8vo. p. 57. An. 1793.

T. BYFIELD, M. D. on consumption, 1685, p. 6.

Traité des malad. de la Poitrine, P. LAVALLI, M. D. 1704.

Phthisiologia Lancastr. C. LEIGH, M. D. 1694.

deny. And I am certain, and have seen many melancholy examples, that this opinion being taken for granted, without enquiry into its validity, a mode of practice has been adopted, that so far from curing, has done much harm, and precipitated numbers into the last and fatal stage of Phthisis Pulmonalis. Of this I shall speak more particularly when treating of the method of cure.

A judicious and learned author observes, “ If putridity actually took place in the vital fluids, its effect would be, to break down the texture of its parts, as it does that of every other body ; it must render it incapable of coagulation <sup>8</sup>.” In diseases that have in an especial manner been deemed to arise from a putrid source, it is very natural to expect this dissolved state of the blood to have been apparent in a thousand instances. An eminent physician <sup>9</sup> bled many patients in every stage of the sea scurvy, and found their blood as firmly coagulated, and as free from any appearance of putridity as the blood of persons in a pleurisy. The celebrated Sydenham bled patients many times in the

<sup>8</sup> MILLMAN on putrid diseases. An. 1782.

<sup>9</sup> LIND on the scurvy, An. 1757. Ed: 2.

plague,

plague, and he found the blood highly inflammatory. In the best account that I have seen published of the plague that lately raged in Turkey and the Russian Crimea, there is not the least mention of dissolution in the fluids<sup>10</sup>. When we examine the blood drawn from patients in every period of consumption, so far from any appearance of dissolution in its contents, the reverse is constantly found; a thick, buffy size and firm crassamentum. Nay, so inconsistent are the favourers of this doctrine, that the size and degree of cohesion in the blood, has always been esteemed an indication that the operation ought to be repeated, and much blood has been unnecessarily shed accordingly. Nor in its progress do we perceive any symptoms similar to those found in diseases usually termed putrid: no petechiæ, vibicis, fordes about the teeth, or blood issuing from the gums and other parts of the body. Not that I esteem these as proofs of putrescency in the fluids; but their presence would have justified the application of the term to phthisis. If the reader wishes to see this subject treated at

<sup>10</sup> DUNCAN's Med. Com. for 1782; & 1783.



large, he may peruse the excellent work quoted before, p. 68. No. 8.

Another general cause, twin brother to the former, from whence this fever, and many others have been supposed to originate <sup>11</sup>, is acrimony in the juices, communicated by the absorption of pus from the lungs, and therefore it has been termed a putrid acrimony <sup>12</sup>. This is one of those  
generic

<sup>11</sup> “ An irritating acrimony brought and mixed in the  
“ very liquids, may and must be either removed or cor-  
“ rected by the use of the fix non-naturals, using differ-  
“ ent means, according to the different nature of the said  
“ acrimony—BOERHAAV.” Aph. § 605. putrid fever  
proceeds from——“ and a very sharp acrimony.” Ibid.  
§ 730.

Putridity and acrimony are the Gog and Magog of medical theorists. They are said to stalk abroad and kill their thousands and ten thousands: but upon nearer inspection they dwindle into mere men of straw, and are as harmless and inoffensive as their brethren in the city.

<sup>12</sup> “ The hectic fever now described, as accompany-  
“ ing a purulent state of the lungs, is perhaps the case  
“ in which it most commonly appears: but I have never  
“ seen it in any case, when there was not evidently, or  
“ when I had not ground to suppose, there was a per-  
“ manent purulency or ulceration in some external or  
“ internal part. It appears to me to be always the effect  
“ of an acrimony absorbed from abscesses or ulcers, but it  
“ is

generic names we so frequently meet with in medical writers, to which there is no determined meaning affixed.

If by acrimony is meant bitterness, sharpness, saltiness, or particles that by their angular and spiculated form, are capable of vellicating, corroding, and eating away the parts they come in contact with; I must own, that I do not believe the particles of pus (allowing for argument's sake, that they are absorbed into the blood) have any such properties. And of this we can only determine by its effect, where it has long lain confined. It has been found in the cavities of the body in large quantities. "The cavities of the pleura, pericardium, &c. are sometimes observed to contain considerable quantities of pus, without the

" is not equally the effect of every sort of acrimony; for  
" the scorbutic and cancerous often subsist long in the  
" body without producing it. What is the precise state  
" of the acrimony producing this, I cannot determine,  
" but it seems to be chiefly that of a vitiated purulency."  
—CULLEN first lines. § 861. Ed. 4. 1784.

" Cum mulierum mammas, ex scirro malè se habentes, abscindere necesse fuit, hujusmodi ægræ ex pure resorpto tibi maximè sunt objectæ."—CLIFT. WINTR. Com. § 380. An. 1782.

“ least mark of ulceration. Instances of  
“ which I have seen. In one patient I  
“ found three pints of pure pus in the peri-  
“ eardium, without any ulcer on that mem-  
“ brane, or on the heart. In another, the  
“ cavity of the pleura, on the right-side  
“ was distended with a pus that smelt more  
“ like whey, than a putrid fluid, and the  
“ lungs were compressed into a very small  
“ compass; but there was no appearance of  
“ ulcer or erosion, either on those organs  
“ or on the pleura, but only under the pus  
“ was a thin crust of coagulable lymph <sup>13</sup>.”

Dr. Lind tasted the serum of the blood of the scorbutic patients before-mentioned, and found it as insipid on the tongue as the albumen ovi. Where abscesses have broke in the mouth, and in purulent expectoration, I have never heard the patient complain of any sharpness in the taste of the pus, though I have directed their attention to that circumstance; it has always been found soft, bland, and void of acrimony.

In some cases of compound fracture, lately published,<sup>14</sup> that were treated in a

<sup>13</sup> HEWSON on the lymphatic system, p. 117.

<sup>14</sup> MUDGE on Catarrh.

new and judicious manner; where the limb was rolled up and the external air excluded, by frequently wetting the bandage with bals. traum. and not opened till after seventeen days; when the dressing was removed, a spoonful of pure pus was found in the wound, and the granulations of new flesh under it, perfectly sound, florid, and free from every appearance of corrosion. When external tumors are opened, and even those penetrating into the cavities of the body, if there is no disease present in the habit, the pain and inflammation soon abate, and there appears no sign of acrimony. When pus has been well diluted and agitated in warm water, so as to form an apparent homogeneous fluid, through a good microscope the particles will appear spherical and distinct from each other.

These instances from authorities, which I presume will not be doubted, either for their veracity or the accuracy of the observations, seem to prove, that pus or purulent matter in its natural state is not, at least in the cavities of the body, or when excluded from air, possessed of an acrimonious or corroding quality; and if not in a quiescent  
state,



state, in large quantities, how much more improbable when circulating in small particles in the mass of blood? And, although it has been observed, that a piece of meat confined in an ulcer was dissolved, and the pus thereby became more fetid, it must be remembered, that the meat was a dead inert mass, very dissimilar from any part of the living body, and therefore susceptible of being acted upon in a very different manner. The substance of the tubercles, and the parenchymatous substance of the lungs when compressed, indurated, and deprived of the vital principle, so as not to admit the air in respiration, or the blood to circulate through them, come near to the condition of the piece of meat, and are accordingly dissolved by the pus<sup>15</sup>. If this reasoning is founded on facts, it would seem, that the living principle must be destroyed in any part of the body before it is capable of being converted into pus<sup>16</sup>.

<sup>15</sup> We are very sensible that pus is *secreted* from mucous membranes when inflamed, and which proceeds from the exhalent vessels being acted upon as we have mentioned above. In violent apthalmia and gonorrhœa, a pure pus is produced, though no ulceration takes place.

<sup>16</sup> HEWSON on the lymphatics:

As one principal motive for my troubling the public with this essay, was, to remove as far as my weak efforts could be effective, every idea of putrefaction and acrimony from the pulmonary hectic fever; the reader must not think I have detained him too long on this part of my subject; for as Celsus wisely observes of the theorists, “*Neque enim credunt, posse eum scire, quomodo morbos curare conveniat, qui, unde hi sint ignoret*”<sup>17</sup>. Were putrefaction and acrimony the inoffensive stalking horse of ignorance and laziness, the matter might not deserve such serious inquiry; but like many other unmeaning, unexplained general terms in medicine, we receive them gratis dicta, build a pompous theory, and adopt in consequence a method of practice, which, as might reasonably be expected, is attended with little credit to ourselves, and less benefit to our patients. But that I may not make use of idle declamation, and fall into the very error I wish to correct, I refer the medical reader to the common treatment of fevers termed putrid, of *Phthisis Pulmonalis*, and the long and vexatious

<sup>17</sup> CELS. *Præf.*

train of nervous complaints, for a proof of these assertions.

From these considerations I am disposed to conclude; 1st, That in the common acceptance of the term putrid, it cannot with any propriety of language be applied to the pulmonary hectic fever. And as a confirmation of this opinion it may not be improper to observe, en passant, that the remedies found most beneficial in those diseases denominated putrid, as bark, snake-root, camphor, volatiles, cordials, wine, &c. have been fatally found, when used by the favourers of this doctrine, to be highly and irretrievably dangerous in the pulmonary hectic. 2d. That what the surgeons call laudable matter or pus, is a bland, smooth, white or yellow viscid fluid, of the consistence of cream, and void of acrimony or putrefaction; that the matter secreted in the lungs of persons in a confirmed Phthisis, being similar in every respect to the pus laudabile of the surgeons, is also void of acrimony and putrefaction, and that by these qualities it cannot (if absorbed into the circulation of the blood) occasion the pulmonary hectic fever.

CHAP.

## CHAPTER IV.

*Pulmonary hectic not originating from the absorption of pus into the blood—absorption produces a continued fever—use of the lymphatic glands—no absorption in the lungs—excretion from the lungs.*

IN the former chapter I have endeavoured to refute the commonly received opinion of putrefaction and acrimony in general, and particularly as applicable to the subject of this work. Having as I trust convinced the reader, that such principles exist only in the imagination of theorists, I shall proceed to enquire into the validity of absorption of pus into the mass of blood, the basis and ground-work upon which the other two pillars are erected.

The earliest authors that have come to my hands, account for the pulmonary hectic fever, from the action of certain archæus and fermentation in the habit<sup>r</sup>. The learned author of the Phthisiologia, approaching

<sup>r</sup> “ A hectic or habitual fever, is an effervescency  
 “ and inquietude of the *Archæus membrorum*, or innate  
 “ vital spirit in the solid parts; procured by some offen-  
 “ five



proaching nearer the level of common sense, supposes the purulent matter contained in the

“ five cause ; whereby the roid substance of the body is  
 “ wasted, and nutrition frustrated.”—MAYNWARINGE  
 on Consumptions, p. 54. An. 1668.

“ But the blood being polluted from the lungs, causes  
 “ them to be punished with a reciprocal affection, that  
 “ is to say, from its peculiar pollution, because the  
 “ blood in the veins receiving this purulent matter in  
 “ every circuit, it immediately delivers it into the ar-  
 “ terial; from whence, whereas it cannot be sent enough  
 “ away by sweat, or by urine ; it is brought back by  
 “ the pneumonic arteries to the lungs, where again being  
 “ separated from the blood, it is every where convey-  
 “ ed, as well into the little bladders of the trachea, as  
 “ into the lesser passages ; insomuch, that at length the  
 “ whole frame of the lungs being filled, clefts or ulcers  
 “ are formed consequently in many places, and all the  
 “ other hollownesses are stuffed with frothy quitter.”—  
 WILLIS on Consumption. An. 1684.

“ Atque hanc febrem putridam intermittentem, inter  
 “ certissima signa Pathognomica Phthiseos confirmatæ  
 “ semper habere soleo, quippe quæ, sicuti à pure in pul-  
 “ monibus confecto ortum ducit, ita purulentia pul-  
 “ monaris index est certissimus. Indèque provenit, quod  
 “ hæc fibris putrida intermittens Phthisin (quoties hunc  
 “ morbum fatalem esse contingit) in extremum usque  
 “ diem comitari soleat.”

“ Sanguine enim, purulentis particulis sibi à matura-  
 “ tis tuberculis in circulatione per pulmones communi-  
 “ catis, perpetuò jam contaminato, natura ejusmodi he-  
 “ tero-

the lungs, to be absorbed and carried into the blood, and there producing a fever of the

“ terogeneis particulis in tantum onusta, atque pressa,  
“ uti amplius eas ferre non possit, insurgit contra, pug-  
“ namque (seu paroxysmum febrilem) in earum extru-  
“ sionem instituit, atque indies renovat.”—MORTON  
Phthisiologia, p. 113. An. 1689.

“ Now when these tubercles come to suppuration, or  
“ break, and become ulcers, it may not be unlikely  
“ that the minute animals, which in the form of worms,  
“ caused all the mischiefs hitherto mentioned, may now  
“ in these ulcerations, as in proper places, receive a  
“ different external shape from what they before had,  
“ and by their new different parts or weapons, stimu-  
“ late more fiercely, and enlarge those ulcerations,  
“ wounding or gnawing the mouths of the small ves-  
“ sels opening into them, and at length be able in their  
“ new shape to get into the mass of blood and other  
“ juices again, there to act a part different from what  
“ they did before, viz. stimulate all the nervous fibres  
“ of our small vessels to a great degree, and occasion  
“ all the rigors and horrors we feel in the beginning of  
“ the fits of putrid intermitting fevers.”—MARTIN on  
Consumptions, p. 69. An. 1722.

“ The hectic fever arises from particles of pus being  
“ received into the circulation, and nature striving to  
“ expel it, and from that conflict arises the hectic  
“ fever.”—BLACKMORE on Consump. An. 1724.

HOME Principia. Med. 1762.

“ But when the putrescence proceeds from matter  
“ continually mixed with the blood from broken ves-  
“ sels,

the putrid kind. This opinion has been followed, with few exceptions, by every fuc-

“ fels, every thing irritating seems to be forbidden.”—  
FOTHERGILL on Phthisis Pulm. Med. Obs. vol. 5. p.  
353. An. 1776.

“ The hectic fever that attends this and some other  
“ chronic diseases, is evidently the effect of acrimony,  
“ and most commonly pus, absorbed and carried into the  
“ circulation.—In the pulmonary consumption, or at  
“ least in the third stage of it, the fever induced is truly  
“ of the putrid kind.”—SIMMONS on Consumption, An.  
1780.

“ La fièvre étique est causée & entretenue par le pus  
“ des ulcères qui étant réforbé dans les vaisseaux du sang  
“ & de la lymph, fait dégénérer ces précieux liquides,  
“ les corrompt & les réduit enfin en humeurs purulentes,  
“ qui conduisent les malades à une fin fatale.”—Traité  
de Phthisie Pulmonaire par M. RAULIN, M. D. Paris,  
1782. 8vo.

“ Balsamica, antiseptica, non modo propter viscerum  
“ vomicas hecticam symptomaticam causantes (de qua,  
“ ut alibi dixi, hic non agitur) sed etiam ad universæ hu-  
“ morum massæ putredinem, quam subinde hectica citra  
“ ulcera inducit, vel externorum certe ulcerum sanies  
“ reforpta, vel alius quivis pravus humor in cachecticis,  
“ suppeditat, prævertendam, haud exiguè sunt utili-  
“ tatis: cujusmodi sunt agrimonia, hederæ terestris, virg:  
“ aurea, veronica, &c.”—WINCESLAI TRNKA. Hist.  
Feb. Hecticæ, p. 271. Vindobonæ, 8vo. An. 1783.

“ The circumstances which kept me longest in suf-  
“ pence, were the several hectic symptoms, which I  
“ could

succeeding author. To enumerate the whole; would only swell this work unnecessarily, and trespass upon the reader's time and patience to no purpose; a few only will be necessary to prove the truth of the assertion, and taken at different periods, will shew the continuity of the doctrine.

It is not a little surprising, that this opinion should have been, during a century implicitly adopted, as if it had de-

“ could not readily account for upon any other supposi-  
“ tion, than that of matter absorbed from some ulcer ex-  
“ isting in the lungs; and indeed the appearance of what  
“ was thrown up by expectoration, which so much re-  
“ sembled that discharged from an abscess, seemed not  
“ a little to countenance such a suspicion”—and again,  
“ Till this, however, could be effected, it was reason-  
“ able to imagine, that absorption might take place,  
“ whenever the discharge from the lungs should happen  
“ to be suspended; and as this was always the case dur-  
“ ing the night, it seemed highly probable that some  
“ particles of the retained matter were actually absor-  
“ bed, and occasioned those hectic symptoms, which  
“ generally came on after the colliquative sweats were  
“ gone off.”—Dr. CHAPMAN on Pulmonary Com-  
plaints. Med. Commun. p. 272. 290. An. 1784.

“ And when the texture of the fluids is already al-  
“ tered and vitiated by the purulent matter resorbed by  
“ the blood, and circulates with it in a mingled stream.”  
—Dr. RUSSEL on Sea Water, 1753. p. 1.



scended from one author to another in hereditary succession, without venturing to enquire, whether the fact was so or not; for I do not remember to have seen any attempt to prove it by reason or experiment. As I consider it of the utmost importance in the cure of this disease, to remove every idea of putridity, and to establish a newer, if not a juster rationale of practice, I shall take the liberty to investigate the subject, divested of the venerable garb it has acquired from antiquity. “ For  
“ nothing in the practice of medicine can  
“ be attended with more dangerous consequences, than to ground the cause of  
“ diseases, upon an imaginary foundation<sup>2</sup>. ”

It is an axiom, I believe will not be disputed, that similar causes will always produce similar effects.

If therefore the fever attending consumption of the lungs, were caused by pus being absorbed, and carried into the circulation; a fever of the same kind would take place from the supposed absorption

<sup>2</sup> STEPHENS on Consumption, p. 131. An. 1761.

of pus in other diseases. The contrary must have been evident to every attentive practitioner.

That the hectic fever accompanying Phthisis Pulmonalis, differs in its nature and origin from that fever observed in cases of large discharge from an abscess, amputation, &c. appears from this, the former regularly terminates in the morning by a profuse sweat, and in the latter, although there is usually a remission in the morning, yet there is no increased perspiration or sweat. May not general debility be the cause of the latter fever, inducing an increased degree of irritability in the vascular system; and after a night's rest, the strength being recruited, that irritability may be diminished, and a remission of the fever take place? <sup>3</sup>

In

<sup>3</sup> “ This hectic fever is generally deemed a consequence of the poison (venereal) circulating in the body: but it is merely owing to a long continued stimulus on some particular part, and is sympathetic. Every continued stimulus, every ulcer from which there is a discharge for a considerable time produces a slow hectic fever; *not by the absorption of pus* as is commonly supposed, but by that debility which is the  
G 2 “ necessary

In an abscess of the liver or psoas muscle, in a suppuration of the kidneys, or of any internal part<sup>4</sup>, the fever is continued with frequent rigors at irregular periods, but without regular remissions and morning sweats. If it is alledged that the pus in those cases is of a different quality from that in ulcered lungs; I answer, that

“ necessary consequence of the continued stimulus of a  
 “ purulent ulcer of long duration. In the first stage of  
 “ absorption, when the poison must be present in the  
 “ fluids, no hectic fever takes place. The same hap-  
 “ pens in other cases. This fever frequently occurs  
 “ without any ulcer to occasion it by the absorption of  
 “ pus: and sometimes it disappears as soon as the limb,  
 “ in which there is a discharging ulcer, is removed.”—  
 Dr. GIRTANNA on the Ven. Dis. German. Anno 1788.  
 in Anal. Review, for Aug. 1790. p. 410.

4 “ In an abscess where the whole internal surface of  
 “ the os ilea was carious, a slow and continual fever,  
 “ added to the large suppuration, soon conducted the pa-  
 “ tient to his grave.”—In a large abscess in perineo,  
 which extended to the os pubis and ischium; he says,  
 “ the fever was continual, the fever never left him.”—  
 LE DRAN's Observ. p. 266. 238. An. 1740.

“ The Chronic (Hæpatitis) often takes place with-  
 “ out being known till after death, when large absces-  
 “ ses are found in the liver.”—CULLEN first lines. §  
 414. Ed. 4. An. 1784.

in its simple natural state, pus in all cases is nearly the same, that is, what the surgeons call laudable matter; but that according to the degree of inflammation, tone of the fibre, and situation of the abscess, its quality will vary; and that in Phthisis Pulmonalis, the matter spit up is of a different colour and consistence, according to the period of the disease.

In recent affections of the lungs, when their substance is inflamed, and before tubercles are formed, the fever is continued, and similar to that attending inflammation of the pleura and other parts of the body. When the organ becomes more diseased, when tubercles are formed, and the substance is more or less impervious to air in respiration, but before any pus appears in the expectoration, the fever changes its type; has a remission of many hours in the forenoon, and exacerbation at noon or evening, continues all night, and terminates about four in the morning by sweat on the breast and upper parts of the body. If then the pulmonary hectic fever were occasioned by the corrosive acrimony of pus

G 3

absorbed



absorbed from the diseased lungs, from whence does it proceed before the tubercles are suppurated, or any pus formed in the lungs? For that the fever is completely formed in recent affections, before any symptoms have indicated the existence of matter, or when there has not a particle appeared in the expectoration, nay, when very little has been spit up, and that merely white phlegm, I appeal to the experience of every practitioner conversant with this period of the complaint. In this form it has frequently occurred to me, and to many of my medical friends, with whom I have conversed on the subject; but though it generally passes unnoticed, and is supposed only a symptom of cold, that is no argument against its existence.

On the other hand, if absorption was really the cause of this fever, it would be present always, and in every case where matter, real pus, is spit up from the lungs; but we have instances, and from the best authority, of matter being spit up during many years, without any symptom of hectic fever, or even injury to the health of the patient,

patient, probably from a single vomica <sup>5</sup>. If absorption were the usual and common process of nature, how are we to account for the absence of its effects in those cases? Shall we say, because the substance of the lungs did not become impervious to air, there was no obstruction to their regular excretions?

Did the hectic fever owe its origin to the absorption of pus, it might reasonably be expected that when a large quantity is excreted into a cavity of the body, as has been before observed, part of it would be taken up by the absorbent vessels, and, being mixed with the mass of blood, produce a fever of the hectic kind; that is, with remissions and morning sweats,

<sup>5</sup> Dr. CLOSSY relates a case of abscess in the liver, where the matter was coughed up to the quantity of a pint a day, and the same passed by the bowels, thick and foetid. There was no hectic fever, and the patient recovered without injury to the lungs. It continued from the end of January till April.—See CLOSSY's Obs. sect. 3. An. 1763.

GALEN Method. Medendi. lib. 5.

CULLEN first lines. § 854. Ed. 4. An. 1784.

WILLIS on Vomicae.

See the Case at the end of chap. 8. of this work.

and wasting of the body, which I esteem the characteristic signs of the pulmonary hectic : but this also is contradicted by experience. In such collections of matter there frequently happens no fever of any kind <sup>6</sup>.

In the compound fracture before-mentioned, when the matter was confined in the wound seventeen days, no mention is made of any fever being present.

<sup>6</sup> “ We daily see instances of people having copious  
 “ discharges of foetid matter from ulcers, who do not  
 “ suffer hectic fever. If matter which is injurious be  
 “ absorbed, the absorbents are first stimulated, and in-  
 “ flame; and when that matter enters the circulating  
 “ system, it excites fever by its stimulating properties :  
 “ but this is not hectic; it is more violent, more ap-  
 “ proaching to the nature of inflammatory fever. Now,  
 “ as there are no symptoms indicating inflamed lymphatics,  
 “ as the fever is of a different nature, and as we  
 “ have daily instances of large surfaces secreting putrid  
 “ pus, without the production of fever similar to  
 “ that attendant on lumbar abscesses, I conclude that  
 “ the absorption of matter is not generally the cause of  
 “ the fever which succeeds the ordinary evacuation of  
 “ the lumbar abscess.”—ABERNETHY Surg. and Physiol.  
 Essays, 1793.

In a case of lumbar abscess, in which three pints of pus was collected and retained for months, there was no fever.

In

In abscesses on the external parts of the body, where a great discharge of matter takes place; and in amputations of the lower extremities, where a large surface is constantly covered with pus, the symptomatic fever however violent, has not the most distant affinity with the pulmonary hectic.

In a very uncommon case of a fractured skull, that came under my own inspection, occasioned by the wheel of a loaded waggon passing over the head; where the whole scalp of the right-side was torn from the bone; the fracture was extensive, penetrating to the basis of the skull, the depression large, the wound of a vast extent, with great loss of substance. It happened in the end of July, when the weather was exceedingly hot. The symptomatic fever was very considerable; and from the heat, and the patient's particular situation, he had two attacks of fever the August following, truly inflammatory and continued. The discharge from the wound was very great, varying according to the state of his health. It might have been expected, considering every circumstance, that had absorption



sorption of pus been consistent with the animal œconomy, it would have taken place here; but no symptom of hectic appeared, even in the extensive meaning of the word. In ten weeks from the accident, the wound was healed, and the patient in perfect health.

From weighing these circumstances, is it fair to conclude, that *if pus is ever* carried by the absorbent system into the mass of circulating fluids, it produces a fever of the continued kind, differing in essential points from the pulmonary hectic; and that this last is a fever sui generis, arising from a cause peculiar to itself?

When the venereal virus is absorbed by the lymphatics, it stops in the glands of the groin, and produces a bubo. In a case that happened in the Store-street lying-in Hospital some years since, when the matron was inoculated with venereal virus in delivering an infected patient; the matter stopped in the glands situated in the axilla, producing great tumor, and violent inflammation in the arm. When matter is absorbed from issues or ulcers on the legs, it stops in the glands situated on the upper  
part

part of the thigh or groin. Some small glands about the inferior costa scapulæ swelled by the absorption of matter from a blister on the back <sup>7</sup>. In that deplorable malady, a cancer in the breast, the axillary glands are generally affected. Milk stagnating in the breasts, frequently occasions swellings in these glands. In the inoculation for the small-pox, the glands in the axilla of the arm, where the matter was inserted, swell and grow painful, before any fever takes place in the constitution. In short, wherever matter is absorbed by the lymphatics, it generally stops in some lymphatic gland, in its passage to the thoracic duct, the common receptacle of the chyle and lymph.

“ The lymphatics of the lungs, are in  
“ two sets, one of which passes in the pos-  
“ terior part of each lobe, by its root into  
“ the thoracic duct, near the middle of the  
“ thorax; and the other set passes from the  
“ fore part of each lobe up towards the  
“ jugular and subclavian vein. Some of  
“ the lymphatics on the posterior part of

<sup>7</sup> HEWSON on the lymphatics.

“ the

“ the left lobe pass under the aorta, to get  
“ to the thoracic duct <sup>8</sup>.”

It is not necessary, that I should enter into the dispute, whether the extremities of veins act as absorbent vessels; the negative, I believe is generally acknowledged. By that means therefore pus cannot enter the blood; and if it is absorbed by the lymphatics in other parts of the body, it would seem to me that the glands are placed by nature upon all those vessels to act as strainers, to prevent any improper matter entering the circulation; pus then cannot act as a stimulus upon the heart in exciting fever.

In the different species of dropsy, we daily observe great accumulations of water disappear in a very short time, being discharged by the intestines or kidneys, to the amount of a gallon or more in a day.

To a mortification of the foot, oil of turpentine was applied as a dressing, and in an hour after, although the patient was greatly debilitated, his urine smelt strong of the turpentine.

<sup>8</sup> HEWSON on the lymphatics.

When the bones are diseased, and deprived of the vital principle, we know they are removed by some process of nature, and most probably by absorption. In a total suppression of urine, we are informed, that when it was not drawn off at the usual period, the patient vomited clear urine, and with it the same kind of gravel, as she used to pass by the catheter <sup>9</sup>.

Mercury, antimony, and a variety of other medicines are applied to the external surface of the body, and by their effects we know they have been received into the constitution.

Admitting that the absorbent system takes up extravasated fluids, diseased parts, bones, pus, cancerous virus, putrid pus, and mortified sanies, urine and gravel, mercury, antimony, &c. &c. is it probable that all these must pass through the arteries and veins before they are excreted from the body? can a gallon or more of water pass into the blood and be discharged in a day? supposing that absorption of pus, a smooth, bland, inodorous fluid from the lungs, raises

<sup>9</sup> Dr. SENTER Trans. Col. Phys. Philadelphia, Vol. I. An. 1793.

and



and maintains the hectic fever, inseparable from Phthisis Pulmonalis; what kind of fever are we to expect, should the urine and gravel, the sanies of mortified parts, oil of turpentine, the virus of cancers, or the aerid discharge of putrid ulcers, enter the circulation? or should the mercury, antimony, and other medicines enter the blood, would they not produce fevers and other symptoms of the most alarming nature? yet these operations internally and externally daily take place, and very commonly without disturbance in the body, or raising a fever of any kind.

Is it not more reasonable to imagine that the lymphatic system may have the power of altering or decomposing the nature of the matters it may absorb, and of discharging them from the body by some other means, than pouring them into the blood vessels, only that they may be excreted by the intestines and kidneys, the stomach and pores?

If matter were absorbed by the lymphatics in the lungs, particularly by those passing from the upper part, which is first diseased; is it not probable, that the pus would

would stop in the lymphatic glands about the clavicles, [as we have before shewn it is its nature to do] and that swellings there would be a constant attendant upon the disease? Whereas, except in scrophulous habits, these glands are seldom affected.

A late ingenious young physician <sup>10</sup> indefatigable in medical enquiries, in opening a body to examine the thorax, happened to scratch his fingers in several places with the broken ends of the ribs; the next day he opened a body that had some symptoms of the venereal disease; in consequence of the absorption of matter, from one or both of those bodies, he had troublesome sores on his fingers for some time, and afterwards glandular swellings on the back of his hands, arm-pits, and under the lower jaw. Those on the hands and under the jaw, were frequently cut off, and as often grew up again, and the others resisted every application for two years. During the whole time his general health was not otherwise affected, than by the

<sup>10</sup> Dr. STARK.

medicines he used to remove so troublesome a complaint.

In this case, whether the absorption consisted of pus, of putrid serum or miasmata floating about the bodies, it was evidently intercepted by the glands, and went no farther; for had it entered the circulation there can be no doubt the effects must have been a fever of a bad kind; as none appeared, it is fair to conclude the matter did not enter the blood, but was stopped and retained in the glands, and in them exerted the whole of its baneful influence. The Infinitely Wise Constructor of our bodies, seems to have placed the lymphatic glands as centinels to intercept whatever is inimical to our health; which, without such a guard, would be daily, nay, hourly liable to be injured: not only putrid and offensive matter floating in the atmosphere, but even what is sweet and delicious might have this pernicious effect, we might literally “die of a rose in aromatic pain.”

In low fevers that are commonly stiled putrid, I have frequently met with swellings in the inguinal glands which I was certain

certain did not proceed from a venereal cause. They inflamed, were painful, and in some cases dispersed; in others suppurated and healed without difficulty. Perhaps the bubo's in the plague and other pestilential diseases are produced in a similar manner.

From the instances which have been adduced, is it reasonable and fair to draw this conclusion? That where matter or offending miasmata are taken up by the lymphatic system, such particles for the most part infect some lymphatic glands which are situated between the place of absorption and the thoracic duct; and therefore as we do not usually find swellings of the lymphatic glands situated in the direction of the pulmonary lymphatics, in the neck, about the clavicles, accompanying consumptions of the lungs and hectic fever, the lymphatics of the lungs passing through these glands, do not absorb pus or purulent matter in that disease.

It has been observed, that the fluid secreted by the exhalent vessels into the  
H cavities



cavities of the body (those of the brain excepted) and the fluid contained in the lymphatic vessels, are in every respect similar, both jellying when exposed to the air in the same given time, and both acted upon in the same manner and degree by disease. The fluid that is exhaled by the lungs in respiration, agrees with the contents of the lymphatic vessels in no respect but clearness and thinness; for it never jellies when exposed to the air, and is always of the same consistence, varying in quantity according to the heat of the body, or disposition of the atmosphere.

A large quantity of this fluid is discharged during respiration; are we to conclude, that either it is excreted into the air vesicles of the lungs by a particular system of vessels, or that the lymphatics entering the substance of the lungs, (if that is a fact, of which I have great doubts) do not act as absorbents?

The more we carry our researches into the structure of the human body, the more we are convinced that every part is designed, by the Wise Contriver, to serve  
some

some determined and distinct purpose, and which cannot be so properly performed by any other. As the fluid secreted into the air vesicles of the lungs is designed to be expelled the body, perhaps as a vehicle to some other principle (phlogiston) by the means of the atmosphere in the act of respiration, which is continued without interruption during life; it does not seem necessary, that any system of vessels should be adopted for reconveying it into the circulating fluids, from whence it had just been secreted. In obstructions of other secretions and discharges from the human body, by the wonderful contrivance of the machine, some other system of vessels act as auxiliaries to prevent the evil effects: but as an obstruction to the excretion from the lungs by means of the atmosphere, cannot happen during the life of the animal, instituting such auxiliaries would have been an instance of superabundance, of which we have no example.

I have thus endeavoured to combat and overturn the long-received doctrines of putrefaction, acrimony, and absorption of

matter, being the cause of the pulmonary hectic fever, and I trust with some degree of conviction to the reader's mind. Whatever merit the execution may have, becomes not me, even to think of; but the novelty of the attempt cannot be disputed, and future observations will determine how far it is founded upon just principles.

## CHAPTER V.

*New theory of pulmonary hectic—what remains of the lungs when the disease proves mortal—air phlogisticated by respiration—phlogiston what—discharged from the habit in breathing—experiments on different kinds of airs.*

THE arguments used in the two preceding chapters have proved, I hope, to the reader's satisfaction, that the absorption of pus from the lungs into the blood, or the putridity, or aerimony of that pus, is in no way concerned in producing or maintaining the pulmonary hectic, as we have been taught to believe by authors of the first reputation in the profession. Other causes have been assigned but not generally received, such as animalculæ<sup>1</sup>, the unequal wasting of the muscular strength in comparison of the contractile power of the heart, and others. But these appear so extravagant and inadmissible in the pathology of the present improved state of the art, that they do not merit a serious consideration. I shall therefore proceed, with the

<sup>1</sup> MARTEN on Consumption, p. 40. An. 1722.



reader's indulgence, to lay before him what has appeared to me the cause of this fever. How far this theory may be found more rational, more just, or more consonant with pathological reasoning, than those that have gone before it, I shall leave to the reader's consideration. Experience, the best and only criterion of medical precepts, will determine. One merit, and one only it claims, and that is novelty, I believe the idea has never before been published by any author; and as the improvement of the method of treating a dangerous disease is the sole motive of this work, I am perfectly willing and ready to relinquish my opinions, should they be controverted by fair and candid reasoning: but general and undistinguishing objections, evidently proceeding from a consciousness of censuring with impunity, are as much beneath, as undeserving my notice.

It has been computed, that a greater quantity of perspirable matter is discharged by the lungs, than by the whole surface of the body<sup>2</sup>. The insensible perspi-

<sup>2</sup> “ But taking the whole year round, the perspiration  
“ made by the skin and lungs exceeds their absorption  
“ by

ration passes off from the pores of the skin at all times, without our being conscious of it;

“ by about forty ounces a day in Great Britain; which  
“ though it has been commonly reckoned the total of the  
“ perspiration, is really no more than its excess above  
“ the quantity of fluid taken in by the absorbent veins  
“ of the skin, fauces and lungs.”—WHYTT, *motion of the fluids*, p. 250. 4to. Ed. An. 1768.

“ When we endeavour to expire with all our power,  
“ the whole surface of the vesicles of the lungs may  
“ sustain a pressure equal to 420 pounds weight.”——  
WHYTT on vital motion, p. 41.

Dr. HALES (*Hæmest.* vol. 2.) supposes the sum of areas of the vesicles of the lungs to be equal to 150 square feet, which is infinitely more than the surface of the body; that being estimated at only 15 square feet. He supposes two gallons of air, breathed to and fro two minutes and a half, becomes unfit for respiration. That quantity is equal to 522 cubic inches. In the two minutes and a half he breathed fifty times; and found the moisture conveyed from his lungs in that time to be equal to 17 grains; which in twenty-four hours amounts to twenty ounces three drachms and twelve grains. But this must vary according to the quickness of the circulation, and the condition of the atmosphere, being more or less capable of dissolving moisture. For, according to Professor Hamilton\*, in his *Phil. Essays*, the common atmosphere has the property of dissolving moisture in the

\* The translators of this work into French say the honor of this discovery belongs to M. le ROY professeur de l'université de Montpellier. Vide *Trans.* p. 405.

it; but when any increase of that discharge takes place, either by exercise, warmth, drinking warm liquors, or taking sudorific and therefore heating medicines, the pulse is always quickened, and a temporary fever takes place.

When the lungs from inflammation, or the formation of tubercles or vomicae, are rendered in part impervious to the air in inspiration, the usual quantity of fluid cannot be carried off by the action of respiration; the quantity so retained, will remain in the habit till excreted by some other emunctory. That quantity of fluid so retained in the habit, (together with phlogiston) I conceive to be the great, and principal cause of the pulmonary hectic fever, which invariably abates as soon as it is discharged by the pores of the skin: and as the impediment to its exit by the lungs continues, so the fever is daily re-

same manner as water dissolves sugar and salt; that it dissolves most when in action, and when so dissolved, the clearness of the air depends upon its warmth; for cold will precipitate it again in the form of vapour or mist, as may be proved by breathing in a warm room, and in the frosty air; in the latter the breath is visible, in the former it is not.

newed,

newed, that the constitution may be relieved from its accumulated burthen. As the lungs by the increase of the disease, become more and more incapable of exhaling the usual quantity of lymph, we find the morning sweats proportionably increased, and the exacerbations of the fever more violent; till towards the close of the disease, when the patient is exhausted to so great a degree, and the muscular force and action of the vessels so much weakened, as probably to be unable to produce such a degree of fever as is necessary to force the fluid through the pores of the skin, it falls upon the intestines, by their well-known sympathy, and produces a diarrhœa. We then perceive the fever and sweating considerably diminish, and the expectoration of purulent matter in less quantity. But when it happens that a diarrhœa does not terminate the complaint, as I have before observed is sometimes the case, or at least in a very small degree, which is easily restrained by astringents, then we find the fever and perspiration continue their violence to the last day of the patient's life. In both cases the spitting diminishes to-

wards



wards the end, not because the matter, according to the old opinion runs off by the bowels, and is seen in the stools, but because the substance of the lungs is so much diminished as not to furnish materials for the usual quantity of matter; for though the pus in general is a secretion, yet the substance of the lungs, being by pressure indurated and deprived of the vital principle, is melted into pus, as has been sufficiently proved in a former chapter. Add to this, that when the patient is nearly exhausted in the last days of his fatiguing and distressing conflict, they seem not to have sufficient strength to pump the matter up.

In those who have fallen victims to pulmonary consumptions, the portion of the lungs remaining pervious to air is so small, as not to exceed one fourth part of their original substance <sup>3</sup>.

In

<sup>3</sup> “ Et quæ mirabilior est Marcii Gerbezii, qui eundem pulmonem dexterum totum, una cum aspera arteria præ putridine in pulstem collapsum, deprehendit. Et quanquam Jo. Tackius ita vidit plane corruptum, ut latus dexteram pulmone destitutum fuisse, scripserit: majori tamen admiratione afficeret Cl. Ritterus junior qui in sinistro latere alba purulenta materia

In the description of the pulmonary hectic it was observed, that although the fever abates very considerably upon breaking out of the morning sweat, yet a certain quickness of the pulse remains during the interval. This is probably occasioned by the progressive formation and

“ria ad medium usque repleto tradit, pulmonis illius,  
“qui totus fere erat consumptus, oscula vasorum fuisse  
“aperta; nisi Celeberr. Anatomicus Hallerus confirma-  
“ret, multum aquæ subcœtidæ, albuminis instar viscidæ,  
“offendisse, in eaque arteriam asperam, et vasa majora  
“arteriosa, et venosa quasi resecta, patulo sine hiantia,  
“ut sanguinis effluxum quid moraretur, ægerrime inve-  
“nires. Nam Platerus qui non semel in Phthisicis ni-  
“hil penitus de pulmonibus alterius lateris superfuisse,  
“deprehenderat, callo saltem aliquo vasa cordis quæ il-  
“luc pertinebant, et arteriæ ramos obturata conspexit,  
“quemadmodum in hac 7<sup>ma</sup> sepulchreti sectione leges.  
“Sic Columbus inveni, inquit, partem thoracis pul-  
“mone destitui, hoc est, minimam pulmonis portionem  
“adesse: quod vero reliquum erat cavitatis ab aqueo  
“humore occupabatur. Sic alias quoque Valsalva cu-  
“jus alibi proferetur observatio, nullum primo aspectu  
“esse credidit pulmonem; adeo sub multo humore con-  
“tractus erat! Sic, ne longior sim; laudatus Hallerus  
“in hydropæ pectoris pulmones vidit adeo compressos et  
“innatos pleuræ, ut nullos adessee incauto videretur,  
“certe tribus lineis vix crassiores.”—MORGAGNI de  
sedibus et caus. Morb. lib. 2. Ep. 22. Art. 7. An. 1762.

in-

inflammation of tubercles, one set after another; of this the patient is frequently sensible, by the pain and foreness of the breast, particularly on a full inspiration or even motion of the thorax.

Ever since men began to reason upon cause and effect, it was known that the common air by being breathed often, and passing many times through the lungs, became at last unfit for the purposes of respiration, and if persisted in the person expired: that is, if an animal was confined in a cube of any dimensions made air-tight, in a certain given time, by some property being communicated to or extracted from the air, the animal would cease to live <sup>4</sup>. The cause of this phænomenon has

<sup>4</sup> By some ingenious experiments lately published on this subject it was found that a person by breathing one hour into a bottle, containing three pints and a half, collected in that time 124 grains of moisture, which makes 6 oz. 1 dr. 36 gr. in 24 hours. It is to be observed, that the three pints and half of air would soon become saturated with moisture, and although it was condensed on the sides of the bottle, yet as fresh air was continually thrown in, the air in the bottle must of course escape to give it room—and as all the moisture would not be condensed,

has been variously accounted for. The most obvious reason was the quantity of moisture

denied, a great part would escape by that means—consequently a much larger quantity of moisture is excreted by respiration than is here supposed. See CRUIKSHANKS Letter on Absorption to P. CLARE, p. 116.

The Abbè Fontanna could only breathe 40 times in 352 cubic inches of air. (*Ph. Transf.* v. 69.) Supposing we expire 20 times in a minute; in the above hour, near 50 gallons of air must have passed into, and out of the bottle; but if we allow 30 cubic inches to pass into the lungs\* at each inspiration, the quantity will be more than three times as much.

\* Cavallo on Air, p. 391.

“ Since air which has passed through the lungs, is the same thing with air tainted with animal putrefaction; it is probable that one use of the lungs is to carry off a putrid effluvia, without which, perhaps a living body might putrify as soon as a dead one.”—PRIESTLEY on Air, 1776 to 1778.

Putrid effluvia, in some cases of diseased habits, is expelled from the lungs by respiration.—CAVALLO on Air, &c.

A man perspires in a day five eighths of what he eats and drinks.—SANCTORII *Med. Stat. Aph.* 6 sect. 1.

Mr. Cruikshanks found, that by confining his hand in a bottle, he collected in an hour 30 gr. of moisture; which, supposing the whole surface to perspire equally, he estimates at 7 pounds 6 oz. in a day. He was at rest and the thermometer at 71° in a room—after using exercise, it amounted to 12 pounds in a day.

In



ture discharged from the lungs; this was apparent to the meanest capacity, and to this the learned added a certain pabulum vitæ extracted from the air into the blood, by which it acquired the red and florid colour.

The many experiments made upon airs with great exactness, by eminent philosophers of late years, have thrown much light upon this part of our subject. These experiments have not only ascertained the properties of air, but also its component parts; it being as easy to detect the unwholesome air of different places, and to determine in what proportion the bad quality bears to the good, as it is to make experiments on any other fluid.

“The principal use of respiration” (says a distinguished author) “is to carry off the phlogiston which the blood acquires during its circulation through the body.” Phlogiston is a general principle in nature, it is contained in all matter in a dormant

In the evening at nine o'clock, the thermometer at 62° he only collected 12 gr. in an hour.—Letter to P. CLARE on Absorption, p. 112.

5 PRIESTLEY.

state,

state, and becomes visible in fire, of which it is the food and life. Air saturated with this principle is inimical to life. A candle confined under a glass receiver, in a few minutes as certainly goes out, as if it had been immersed in water. For air is capable of receiving or dissolving but a certain quantity of this principle, and then becomes saturated with it in the same manner as it is saturated with water; with this difference, that it retains phlogiston till a proper object offers on which to deposit it, but precipitates water in every situation. Air saturated with phlogiston kills animals and extinguishes fire and candle.

To determine the existence of phlogiston being in the air expired from our lungs, the following experiments were made, assisted by a very ingenious lecturer in natural philosophy <sup>6</sup>. And though I knew they had been made before, I thought a repetition necessary in order to strengthen the conclusions that will be drawn from them.

1. A vessel of air after having been passed through the lungs many times, ex-

<sup>6</sup> Mr. WALKER.

tinguished

tinguished a lighted taper instantly on being immersed in it. Into this vessel of air so respired, a few sprigs of growing mint were put, and being reversed in water it remained one hour, when the lighted taper burned perfectly well at the bottom of the vessel.

2. Two measures of common atmospheric air were put into a glass tube previously filled and immersed in water, to this was added one measure of nitrous air, a brown effervescence took place, and in three minutes the air was diminished one twenty-seventh part of the whole: that is, the common air absorbed the phlogisticated air, and was thereby so much diminished. This was meant as a test.

3. I breathed a pint of air contained in a bottle immersed in water, through a glass syphon with my nose stopped, six times: the last inspiration with extreme difficulty, the pain and oppression at my breast being very great. Two measures of this air and one measure of nitrous air being mixed, as in the preceding experiment, the water rose in three minutes only to five twenty-sevenths below the gage, so that this respired,

pired air was fix twenty-sevenths worse, or more phlogificated than the common atmosphere.

4. I expired through quicksilver a measure of air from my lungs, being the last part of as violent an expiration as I could make with my utmost force (that being found to contain more fixed air than the first part) and after washing it well in water, we found it was diminished one-seventh of the whole. The diminution was fixed air or aerial acid, which from its great affinity to water readily unites with it. Air expired through lime-water in a syphon renders it milky, and precipitates the lime to the bottom, which is true calcarious earth, and will ferment with acids.

5. I confined my hand in a bladder tied close round the wrist one hour, and then removed the air into a glass vessel in water. Two measures of this air and one of the nitrous air were mixed as before, and the result was exactly the same as with the atmospheric air in the 2d Exp. The phlogiston in the air not being increased,  
I proved



proved that none had escaped from the pores of my hand <sup>7</sup>.

It has appeared from very respectable authority, that a large quantity of lymph or pellucid fluid is expired from the lungs, which any person may be convinced of by breathing against a looking-glass or any smooth, hard, cold body. And by Exp. 3. it appears, that the air expired being more phlogisticated by six twenty-sevenths, or something less than a fourth-part, than the air inspired, it is evident that a large quantity of phlogiston does escape from the body by means of the air in respiration. The quantity of lymph and phlogiston so discharged, will vary in quantity and time respectively, according to the state of the atmosphere, heat of the body, &c. Now the expulsion of both these fluids will be diminished in proportion as

<sup>7</sup> Fixed air does not escape from the pores of the skin, as is asserted by Dr. Ingenhousz and Mr. Cruikshanks, after examining their experiments, and making others, Dr. Priestley concludes, "I cannot therefore but see reason to conclude, as I did before, that it is only *respiration*, and not the perspiration of the body that injures common air."—PRIESTLEY on Air, vol. 5. p. 107.

the lungs shall become impervious to air, or be diminished in their substance, and the quantity so retained, I presume may act as a stimulus and constitute the pulmonary hectic fever.

To say that so powerful and active an agent as phlogiston is known to be, should be retained in the body without injury, would be denying the most obvious effects. In proportion as the lungs become diseased and wasted, so proportionably the retention must be, and so proportionably violent we find the fever and consequent sweats. And in the early part of the complaint we have shewn, that the pulmonary hectic fever is completely formed when no pus is spit up, and probably before any is secreted. That tubercles are then formed I think there is no doubt, and, although I will not take upon me to determine that while there is no hectic fever, there are no tubercles, yet I believe they are always present with the fever.

Phlogiston we have observed is contained in all matter, but particularly in animal bodies; we receive it from the air, in our food, and in every thing we use. All na-

ture is in circulation, striving to maintain an equilibrium. The superabundant quantity that is contained in our bodies is dissolved by the air acting as a menstruum in the vesicles of the lungs, and receiving it from the blood circulating through that organ; how this is performed we cannot say, but as phlogiston is a fluid more subtle than the electric, it is probable that in a similar manner it passes by mere contact<sup>8</sup>.

And it is no objection to this reasoning, that when the disease is cured, after a considerable portion of the substance of the lungs has been destroyed, that the blood

<sup>8</sup> “ Six measures of nitrous air added to two measures  
 “ of dephlogisticated air, mixed and transferred to lime-  
 “ water; the lime precipitated, till the whole was re-  
 “ duced to one-tenth nearly; so that nine-tenths of this  
 “ dephlogisticated air was evidently converted into fixed  
 “ air; and since fixed air did not pre-exist in the dephlo-  
 “ gisticated air, it was evidently produced by the union  
 “ of the phlogiston of the nitrous air, with the truly  
 “ dephlogisticated part of the dephlogisticated air.”——  
 KIRWAN in *Philos. Trans.* vol. 72. part. 1. An. 1782.

A similar process is supposed to be carried on in the lungs, where the phlogiston in the blood unites with the dephlogisticated part of the atmospheric air, and forms fixed air, which is discharged by respiration.

will

will be equally liable to obstruction, and the expirable matter retained in the habit; since we have daily instances of that wonderful principle in nature, always labouring for her preservation, and accommodating herself to particular situations. This principle is evinced not only in the animal creation, to a wonderful degree, but also in the vegetable.

In whatever manner this subject is considered, I think the conclusions will hold good. For, whether the air in respiration attracts phlogiston from the blood; whether the blood, according to the old opinion, attracts the pabulum vitæ from the air; or whether the air becomes saturated with moisture from the lungs; in either case, whatever principle the blood receives from, or communicates to, the inspired atmosphere, that principle will be diminished in proportion as the vesicles of the lungs shall become impervious to the air. View the argument in any light: as it is absolutely necessary for the preservation of life, that the blood, after receiving the chyle and lymph, poured by the thoracic duct into the right and left subcla-



vian veins, shall pass through the lungs; it is very certain, when the passage is impeded by the diseased state of that organ, the air will not come in contact with the blood vessels at so many points; and if what we have been attempting to prove is true, that certain matters are expelled the system in breathing, that matter will be retained proportionably to the extent of the disease; and I hope it will appear reasonable to conclude, the matter so retained will have some share in producing the fever attending consumption of the lungs.

When a diarrhœa appears in the last stage of the disease, it has been accounted for by the pus being absorbed, and running off by the intestines. At this time the lungs are considerably reduced and wasted, more than half their substance having been dissolved into pus and expectorated. Allowing that the lymphatic vessels do absorb pus from the lungs, these vessels must diminish in the same ratio as the substance of the lungs. Supposing then, that the diarrhœa proceeds from the absorption of pus; why does it not appear more early in the disease, when there is a greater extent

extent of surface covered with matter, and when a larger number of the absorbent vessels remain uninjured? Whereas this symptom does not appear till after the hectic fever and colliquative sweats have continued long, and the lungs diminished in their substance, are as it were drowned in purulent matter. Let me ask the supporters of the old doctrine, if absorption really takes place, would it not do so when the system of vessels by which it is performed is in nearly an entire and sound state, rather than when it is reduced in the proportion of three, or perhaps four to one? I must beg leave to press these considerations on the reader's mind, and when he has bestowed that attention which the subject deserves, leave him to draw his own conclusions, not doubting but it will be favourable to my hypothesis.

Allowing the absorption of pus to cause the pulmonary hectic (as to its qualities of acrimony and putridity, it will not be necessary, I believe, to say more on those points) I would ask from whence arises the regular intermissions in the morning and succeeding exacerbations? Is not the

lymphatic system always in a state to absorb matter, continually applied to their extremities? <sup>9</sup> As it is most reasonable to suppose they would act with the greatest vigour, when the body is at rest in bed; when the lungs are agitated with the incessant coughing, forcing as it were the purulent matter into their apertures, and when there is the greatest quantity of pus collected in the ramifications of the bronchia, would not the fever consequently be more violent in the forenoon? On the contrary, the fever goes off, or greatly abates about four or five o'clock in the morning, and the remission continues till noon, that is, during five or six hours. When they first get up they discharge a

<sup>9</sup> The advocates for absorption of pus may perhaps avail themselves of that property in the lymphatics by which they remain occasionally in a quiescent state; with their apertures immersed in fluids, until they are roused into action by some stimulus applied generally or particularly; and then they absorb rapidly, or rather devour fluids and solids. Allowing that they do not act uniformly, and constantly, how does that apply to the pulmonary hectic? Whatever the cause may be, the effect there, is constant and uniform; but was the fever caused by the irregular and casual absorption of pus, it would correspond in irregularity.

large

large quantity of pus either by coughing, or by the operation of an emetic; during the rest of the day very little if any is brought up, whatever degree of cough there may be; but yet the fever comes on regularly in the afternoon, when for six hours before, I presume, there could not have been any absorption. How are we to account for the inactivity of the absorbent system when such a quantity of pus was present in the lungs! Surely, if it really was the property of those vessels to take up pus, they would continue to do so whilst any was applied to their extremities; and if that absorption caused the fever, it would be continual as its cause.

It is worthy of observation, and perhaps may give validity to the idea of pus being secreted, that in the advanced state of the disease, the patient generally coughs long and violently in the night and towards morning, and shall bring up nothing but phlegm or mucus, and that in small quantity; when at length the pus appears, and then it will flow out in almost a continued stream with only an effort to cough, hawking, or merely putting the body into a  
favour-



favourable position, which is known by experience. Is the agitation of coughing necessary to force the pus out of the vomicæ, into the ramifications of the bronchia, or is the agitation necessary to its existence, to the secretion of it? However light and trifling these circumstances may appear to superficial readers or practitioners, they deserve great attention; for the little we are capable of knowing concerning the cause of diseases, must be acquired by an unwearied, and diligent attention to every the minutest operation of nature.

In a former chapter, we brought several instances to prove, that when pus or offending miasmata were absorbed into the system, that the matter was arrested in the first lymphatic gland between the place of absorption and the thoracic duct. But what becomes of the matter absorbed from the lungs? We find no swellings in the glands lying in the direction of the lymphatics, and there is no appearance of it in the perspiration. Indeed an author of considerable reputation <sup>10</sup>, says it is formed in

<sup>10</sup> DE HAIN. *Ratio med.*

the blood, and then poured into the bronchia; but I presume the reader will not expect a refutation of an idea so unfounded and contrary to every thing we know of the animal œconomy.

When we consider that pus is a viscid, opake, tenacious fluid, specifically heavier than water; it does not seem adapted to enter capillary vessels, whose apertures are so small, that in the intestines, where they are in greatest number, they are not discoverable with the assistance of the best glasses, except when loaded with chyle.

On the other hand it has been computed, that a person in common health exhales from his lungs, more than twenty ounces of fluid in twenty-four hours. If from a disease in the lungs a considerable part of this fluid is retained in the habit, is it not consonant to just pathological reasoning, that a fever should be raised to expel it, by the most common outlet, the pores; and that this fever should continue till the cause producing it is removed? That in consequence of the morning sweats the fever goes off, and the remission continues some hours, till the former cause

cause accumulating in the system, it is again excited, and runs the same course as before. As the disease in the lungs advances, a greater quantity of fluid will be retained, and we find the fever and morning sweats, accordingly increase in their violence and duration; till at length the natural strength of the body being so much reduced, as to be incapable of raising the fever necessary to the expulsion by the pores; it then, by the usual sympathy subsisting between the skin and the intestines, falls upon the bowels and occasions a diarrhœa. In consequence of which, the fever and sweats being no longer absolutely necessary, are in a short time considerably diminished. But when a diarrhœa does not happen, they continue their violence to the fatal termination.

This appears to me a plain, simple, and natural manner of accounting for, and explaining the nature of, the pulmonary hectic fever, and subsequent diarrhœa; and I must have been very unfortunate in my reasoning and deductions, if I have not fully convinced the intelligent reader, that the absorption of purulent matter into the  
mass

mass of blood never does or can subsist, and is therefore no way concerned in occasioning and continuing those complaints. But that they are originally caused, and continued, by the retention of that quantity of phlogiston and lymph in the habit, which by the diseased state of the lungs are prevented being expelled by the atmosphere in respiration, and which expulsion by the lungs is absolutely necessary to health <sup>11</sup>.

<sup>11</sup> “ The air in the lungs acquires a quantity of phlogiston from the blood, which discharge of phlogiston, is absolutely necessary to the continuation of animal life, and which in time renders the air incapable of absorbing any more, and consequently unfit for respiration.”—PRIESTLEY on Air, vol. I.

It deserves attention, and may support the foregoing reasoning, that the only fever we are certain originates from the absorption of matter, is of the *continued* kind; namely, that succeeding the inoculation for the small-pox. And that the fever attending Lues-venerea, the plague, &c. supposed to spring from a similar cause, are also continued, with accessions and remissions at irregular periods, but totally dissimilar to the pulmonary hectic.



## CHAPTER VI.

*Means commonly used in the cure of phthisis—bleeding—chalybeats—whether med. enter the blood—the cause of disease seldom if ever seated in the blood—balsams and gums—issues, caustics, and other drains—bark—practice at Bristol wells.*

PREVIOUS to offering any considerations on the cure of pulmonary consumption, it will be necessary to take a cursory view of the means that have been, and now are, most generally used for that purpose. The principal of which are bleeding, blisters, issues, caustics, and drains of every kind, bark and tonics, oils, balsams, and pectorals.

In no disease incident to the human body, has bleeding been so generally ordered, and so frequently repeated in a given time, as in that which we are now considering<sup>1</sup>; and I fear

<sup>1</sup> “ Super omnia verò, venæsectione, eâque fatis tempestivè, frequentèr, et copiosè adhibitâ, utut macilentus, et tabidus fuerit Æger.”—MORTON Phthisiol. lib. 2. cap. 4. Anno 1689.

“ Si nihil reliqua proficiunt, sanguis mittendus est; sed paulatim, quotidieque pluribus diebus, cum co, ut cætera  
“ tera

fear the observation has been but too much verified, “that more die by the lancet than the lance.”

In the early period of the disease, when the cough is dry, hard, and frequent, with pain, forenefs, and ftitches in various parts of the thorax; the pulse firm, quick, and full, the breathing fhort, with pain and difficulty, bleeding is an appropriated remedy, and may be repeated according to the ur-

“tera quoque eodem modo ferventur.”—CELSUS, lib. 3. cap. 22.

“To bleed in small quantities repeatedly.”—FOTHERGILL Med. Obs. & Inq. vol. 4. p. 300. An. 1770.

“In pleuritide, peripneumonia, et hujusmodi inflammatoriis pulmonum morbis, si in sanguine è vena extracto non appareat in superficie crusta alba, quæ necessario apparere debet, pessimum? Materies namque illa crustam efficiens in pulmone remanet, eumque infarcit; undè paulò post crescunt febris, inflammatio, spirandi difficultas, et reliqua symptomata; si verò in altera sanguinis missione incipiat apparere; bonum? Contra si in secunda nè quidem apparebit, abstinato statim à sanguinis missione, aliter interficies ægrotantem, quia per repetitam tunc sanguinis missionem, sanguis spoliatur parte volatiliori, unde major eidem ad coagulationes vià præbetur, ut mihi retulit pro humanitate sua Vir doctissimus Dom. Lancisius amicus noster.”—BAGLIVI Oper. Cap. de Pleuritide. Anno 1704.

gency of these symptoms with great benefit and safety. But performing this operation two or three times or oftener in a week, as is frequently done, I am convinced answers no good purpose; but, on the contrary, weakens the patient, deprives him of that strength he so much wants in combating the disease, and greatly accelerates the fatal period.

When the patient spits up purulent matter, when the pulmonary hectic with remissions and morning sweats is confirmed, when the flesh is wasting away and the strength visibly decaying; whatever may have been the appearance of the blood in a former operation, with-hold the lancet, or the patient's life will flow out at the orifice.

The celebrated Boerhaave and other eminent authors, recommend bleeding to be repeated while the buffy crust is found upon the blood, considering that as a criterion of inflammation<sup>2</sup>; and this practice has been

<sup>2</sup> “ It is cured (Hemoptoe) with a large bleeding every third day, repeated to four times, or till the inflammatory crust has entirely disappeared.”—BOERHAAVE'S Aph. 1200. An. 1735.

“ This

been very generally followed, more especially by the lower order of the profession. No appearance can be more fallacious than the size upon the blood, for it frequently happens, when received into several cups, that one or two of them should have it, and the others not <sup>3</sup>. In pleurifies the blood will sometimes be free from size, and

“ This dense buffy appearance of the blood, with a  
“ firm strong pulse, will warrant the drawing off blood,  
“ till the respiration at least becomes more free and easy.”

—HUXHAM on Fevers, p. 180. An. 1757.

3 “ Such blood (sify) is usually called inflammatory;  
“ yet it is notorious, that this color sometimes does not  
“ shew itself upon the first blood, which is taken away  
“ in the most inflammatory distempers; and, on the con-  
“ trary, it has been found in other disorders, if the pa-  
“ tient happens to have been bled, in which bleeding  
“ is generally condemned. Ballonius Ephem. l. ii.  
“ p. 126. affirms, that some of the soundest constitu-  
“ tions always shewed the most impure blood; and that  
“ in others, whose viscera were in a very morbid state,  
“ the blood always appeared extremely good.”—HE-  
BERDEN Med. Transf. p. 499. An. 1772.

“ In quocunque morbi genere sanguinis missi et refri-  
“ gerati superficies, pellis albæ, duræ, similitudinem  
“ induit, indolem inflammatione comitatam denunciat,  
“ et rarò sine repetitâ hujusmodi exinanitione sanatur  
“ iste æger; cæterisque paribus, ex hâc solâ re cognos-  
“ catur aliquo modo inflammationis gradus.”—CL. WIN-  
TRINGHAM. Com. § 62. An. 1782.



yet the complaint continue <sup>4</sup>. In pregnancy the blood is for the most part fizy, when no disease is present. And therefore it is far from being an incontestable proof of inflammation <sup>5</sup>.

In reading medical works, we perpetually meet with the terms visciduity, lentor, and glewishness, as applied to the blood whilst circulating, and remedies ordered to remove such causes of disease. But is there ever any such condition, any such state of the blood? Does it ever become preter-

<sup>4</sup> “ I have purposely noted in a great variety of instances, the color of the blood, which had been received into different vessels; and have found, that it was seldom alike in them all; and that by turns, the first, or second, or third, has totally differed from all the rest. The fizy surface most usually covers the cup of blood, which runs out first; but I have known the first eight ounces of blood without it, while the last ounce, received into a different vessel, has had a thick fizy coat.”—HEWSON on the blood.

“ Many persons live free from complaints with fizy blood.”—FOTHERGILL *Med. Obs. & Inq.* vol. 4. p. 301. An. 1770.

<sup>5</sup> “ Which, (size or buff) however, very frequently doth not appear till the second or third bleeding, though the symptoms may indicate a very high inflammation.”—HUXHAM on *Perip.* p. 179. An. 1757.  
naturally

naturally thick, so as not to circulate freely through the vessels? I think not, except in cases of poison, and the bites of venomous animals, and of those I know nothing from experience.

Contrary to the received opinion, inflammation is found to render the blood thinner, and particularly the coagulable lymph; by which means the red particles or colouring matter are precipitated to the bottom of the vessel, and the lymph remaining above, jellies and constitutes what is termed size or buff; the density of which, will be in proportion to its previous thinness. It is supposed to be occasioned by the action of the vessels upon the blood.

The motion of the blood being accelerated in diseases, probably depends more upon the action of various stimuli applied in different degrees to the coats of the vessels in which it circulates, by means of the nervous system, than upon any quality possessed by the particles of the blood. And although bleeding may in the beginning of diseases relieve by lessening the

quantity of the blood, yet its most common effect, I imagine, is to diminish the tone and action of the muscular fibre.

The transient relief experienced from repeated venesection in the advanced stage of Phthisis Pulmonalis, proceeds from the emptying the vessels, and thereby relieving the difficulty of breathing; and as it reduces the general strength, the action of the vessels will be diminished, and the circulation for a time become slower.

As from the earliest ages to the present time, it has been so generally taught by authors and professors, that the seat of diseases was in the circulating blood; it might reasonably have been expected to be an easy matter to determine when, and in what manner that fluid was acted upon, and became acrid, putrid, or mixed with various humours. But as they are silent upon this important part of the science, and, instead of proving a position so essential to the practice of medicine, are always supposing the affirmative taken for granted; I fear in this, as in many other  
in-

instances, they have founded their theory upon the sandy basis of general and undefined terms, to which no determined signification has been, or can be associated.

That the circulating blood is susceptible of various changes and alterations, we are fully convinced by examining its parts when out of the body, not only in a diseased, but also in a healthy state. From inanition, consumption, and other slow and lingering diseases, in which the body has suffered great evacuations, or has not been sufficiently nourished; we find it thinner, and the red particles in a less proportion, than when in health. From intemperance, ease, placidity of mind and luxury it probably acquires a different property. These variations are the effect, not the cause of disease<sup>6</sup>. But that its consistence should ever become so dense and viscid as not to circulate through the

<sup>6</sup> “ The blood in the small-pox, or in the hectic fever  
“ from an abscess in the lungs, or other parts, will be  
“ inflamed in proportion to the fever excited, but it  
“ will derive no particular complexion from the particu-  
“ lar matter occasioning the fever.”—MILLMAN on  
putrid diseases, p. 133. An. 1782.



vessels with the usual freedom, forming obstructions in the smaller vessels, and thereby causing disease, notwithstanding the high authority by which the opinion is supported, I do not believe <sup>7</sup>.

During inflammatory disorders, when this thickness and viscosity is supposed to take place, so far from not being able to circulate, the pulse is greatly quickened, and the animal heat augmented; and when

7 “ In the blood it (spontaneous glew) produceth a  
 “ toughness and a paleness, making its circulation almost  
 “ impossible; in the vessels obstructions, concretions; a  
 “ pale urine, with scarce any smell; a slow spittle; a  
 “ white swelling; and the obstruction of the animal  
 “ secretions; a defect of the finest juices; from all  
 “ which, the smallest vessels do shut up and grow to a  
 “ solid.”—BOERHAAVE’S Aph. § 72.

If an healthy person was inoculated with the blood of a patient in the eruptive state of the small-pox, would the disease be communicated?

If an healthy person was inoculated with the blood of a patient in the confirmed lues venerea, would the disease be communicated? Were these experiments made repeatedly with accuracy and fidelity, I think they would be decisive for the blood’s being, or not being affected by disease. Many persons may have opportunities, without difficulty of making the first; nothing but an eager desire of improvement, I fear will induce any one to make the last.

blood

blood is drawn it is evidently thinned, though the relative proportion of crassamentum is not diminished; the coagulable lymph only is thinned, and precipitates the coloured particles as has been observed before.

In many diseases where the mass of the blood was supposed to be broken down and dissolved, become putrid and incapable of coagulating; as in the plague, sea scurvy, and after a long use of mercury; upon examination no such appearance has been discovered; on the contrary, the crassamentum was found as firm as in the greatest degree of inflammation<sup>8</sup>.

Ever since the publication of the microscopical observations made by Lieuwenhoeek, the red particles of the blood have been universally believed to be globular, that form being supposed better adapted than any other, for circulating through vessels of various diameters. But from the accurate experiments of a late ingenious and eminent anatomist, we are induced to believe that

<sup>8</sup> SYDENHAM in the plague. An. 1675.

LIND on the scurvy. An. 1757. Ed. 2.

they are perfectly flat vesicles, containing a fixed central point, that they circulate in this form through the veins and arteries, that they do not become globular but in consequence of putrefaction out of the body; and that this form is essential to life he presumes, from having observed it take place throughout the animal kingdom <sup>9</sup>.

In consequence of the opinion being adopted that the blood underwent certain changes in its constituent parts producing diseases, the application of medicines has been directed to that source. Hence we have seen formed the long catalogues of antiputrescents, antiscorbutics, antihectics, sweeteners, alteratives, &c. &c. But experiments have clearly convinced us, that the greatest part if not all the medicines given to answer those intentions, do not enter the circulating blood, and that strictly speaking, there is no substance endowed with antiseptic power, when taken into the body.

On examining the blood of a person who had taken steel for some time, with a

<sup>9</sup> HEWSON on the blood.

tincture of galls, it gave no signs of the metal being present; but upon mixing with it a small quantity of *sal-martis*, the serum became immediately black upon adding a few drops of the tincture<sup>10</sup>.

Cathartics and emetics act in the first instance, upon the stomach and bowels. All medicines of the bitter, astringent quality, and into whose composition any mineral substance enters, I believe exert their influence principally upon the stomach and alimentary canal, when taken inwardly.

Mercury has been generally believed to pervade every part of the body; to break down the mass of blood, dissolve its globules, and render it incapable of coagulating; nay, to lodge in the very cells of the bones. Yet from some experiments I have made myself, and others that have

<sup>10</sup> *Philos. Transf. vol. 50. Part 2. p. 595.*

Dr. FRIEND (*Emmenalog. c. xiv.*) informs us, that no sooner had he injected two ounces of *Decoct. Peruv.* into the jugular of a dog, than it produced severe palpitations, convulsions, and death.—See A. FOTHERGILL's Letter to Dr. SAUNDERS.

been



been lately published<sup>11</sup>; I am inclined to believe its action is principally, if not entirely

<sup>11</sup> The many experiments that have been made by an ingenious and accurate anatomist, upon blood in various states, on the saliva, and upon the urine of persons under the influence of mercury; in order to discover whether it was present in these fluids, seem to determine it in the negative. He observes, "that the changes it (corrosive sublimate) afterwards undergoes in the body, in becoming quicksilver, is most probably produced in the blood vessels," p. 144.—He afterwards says, "I am inclined, however, upon the whole, rather to think with Mr. Hunter, that the mercury is in the human fluids in the form of a new salt; since gold, &c. were not amalgamated by these fluids, obtained in such a state as made them be presumed to be fully saturated (if one might say so) with mercury," p. 219.—At last he concludes, "In whatever state mercury exists in the blood, I am convinced that it always exhales from the body, after its action is over, in the form of running mercury; and that it may not only be decomposed, but somehow acquire phlogiston in the human fluids," p. 223. If I understand the ingenious author right, the mercury when introduced to the body in the form of a salt, is reduced to fluid quicksilver in the blood vessels; that, in order to produce its effects on disease, it is again changed into a new salt; and, last of all, in order to make its escape, after producing such effects, is changed a second time to running mercury. I must confess, I do not think such rapid changes and repeated transformation, are consistent with the usual simplicity of nature's operations.

It

tirely confined to the lymphatic system; and that it seems to me very doubtful, if ever mercury in a natural state circulates in the blood.

Hence it would appear that notwithstanding the many discoveries which have lately been made in this part of physiology, we are far from being perfectly acquainted with the properties, and constituent parts of this vital fluid. In the blood is the life of man, and therefore nature has wisely placed innumerable barriers to prevent extraneous matter, except what is proper for our nourishment, from entering it. And as it appears to be very little, if at all<sup>12</sup>, concerned

It is probable, (at least so is my opinion, in which perhaps I may stand single) mercury acts solely upon the lymphatic system, without entering the blood vessels; where had it been in a fluid form, the experiments hinted at, would inevitably have discovered it.—See CRUIKSHANKS's Letter on Absorption to P. Clare.

<sup>12</sup> “ The more we are acquainted with the animal  
“ œconomy, the more reason we find to believe, that  
“ the seat of diseases is not in the blood; with the sensi-  
“ ble qualities of which it seems to have very little  
“ relation.”—HEBERDEN *Med. Transf.* vol. 2. *Queries*.  
*An.* 1772.

ROBINSON on *Consump.* part 1. p. 111. *An.* 1727.

in producing disease, it surely becomes the indispensable duty of every physician, no longer to confine himself in the trammels of fashion and custom, but to deviate from the beaten track of practice, and search for the seat of diseases, for the acrimony, putrefaction and caustic acids, which we hear so much of, where they are probably to be found, in the stomach and intestines, in the viscera of the lower belly <sup>13</sup>.

I by

<sup>13</sup> When extraneous matter has been injected into the blood vessels of animals, it has uniformly been succeeded in a short time by great disorder in the system. The following experiment is so much in favor of my opinion on this subject, that I cannot resist inserting it, in the words of the eminent author. “ Two drachms  
“ of crude mercury were injected by means of a proper  
“ apparatus into the crural vein of a dog. It produced  
“ no effects that were obvious for at least a whole day;  
“ but afterwards there were evident marks of increased  
“ action in the vascular system, attended with a quick  
“ and hard pulse. After he had continued in this state  
“ two or three days, a dyspnoea supervened; this was  
“ soon followed by a cough, and symptoms evidently  
“ denoting an affection of the lungs, which daily in-  
“ creased until he died. His lungs on examination were  
“ found in a tubercular state; many of these tubercles  
“ had suppurated and formed vomicae. The question here  
“ is, whether these tubercles and vomicae arose from the  
“ intro-

I by no means would be understood, that bleeding is never proper when purulent matter is expectorated from the lungs; many cases and circumstances will occur, in which it may be highly expedient; but in treating the subject in general (and it is impossible to particularise every variety in the symptoms) I wish to enter my caveat,

“ introduction of the mercury? The answer is very  
“ clear. The animal was in perfect health before.  
“ This is only a presumptive evidence. But a minute  
“ examination of the tubercles put the matter out of  
“ doubt; for on making sections into the substance of  
“ them, each contained a globule of mercury, forming a  
“ kind of nucleus to the circumscribed inflammation or  
“ tubercle. Whether the mercurial globules acted on  
“ the principle of simple stimuli, or in a specific way,  
“ is not a subject of our present investigation: but the  
“ inference intended to be drawn is, that symptoms of  
“ general excitement may exist in the whole body, and  
“ that only a particular organ may shew marks of disease;  
“ and further, that the circulation may be accelerated  
“ through the whole vascular system of a particular organ,  
“ while only particular parts of that organ suffer a visi-  
“ ble alteration in their structure.”—Dr. WILLIAM  
SAUNDERS on the liver. An. 1793.

The reader will apply the effects of this experiment to the opinion of the formation of tubercles, and the operation of medicines on the human body, which I have endeavoured to inculcate in this and the former editions of this work.

and



and protest as I do most fervently against the frequent repetition of the operation as a means of cure. This I earnestly address to young physicians, and particularly to the lower order of practitioners.

I am very sensible how much in this opinion, I differ from the most eminent in the profession; men not more distinguished for learning and knowledge, than for liberality and humanity. Characters such as these must command the esteem of every one; but were we implicitly to follow authorities, even of the highest reputation, all improvement would be precluded, and the science, like the arts in China, remain for ever at the same point of imperfection<sup>14</sup>.

Bleeding, in this and many other diseases, is undoubtedly a safe and efficacious remedy; but in this great and overgrown town, I speak from certain observation, it is used, by the lower rank of the profession, too frequently, and without pro-

<sup>14</sup> " Authority! thou father of all errors, thou enflaver of the mind, that hood-winkest the understanding, and keepest all arts and sciences, that should benefit mankind, in perpetual darkness and obscurity."

—ROBINSON on Consumption, part 2. p. 128. An. 1727.

per discrimination; sometimes I fear, in the common routine of practice, without duly considering whether the strength of the patient can support the evacuation, or whether the nature of the disease is such as will justify the operation. In great cities, the vigour of the human body is so much reduced from that of our more robust ancestors, that true inflammatory diseases rarely occur <sup>15</sup>.

The

<sup>15</sup> “ But without the least pretence to bleed for pains  
 “ not at all inflammatory; where, except in case of a  
 “ *plethora*, or sometimes of violent spasms; bleeding at  
 “ the best never does any good; much mischief has  
 “ been done by the injudicious, undistinguished use of  
 “ this evacuation; which is never neutral or indifferent;  
 “ but where it does no good, can hardly ever fail to do  
 “ mischief. The first thing that is commonly done in a  
 “ fever, is to let blood.—If the patient is nothing better  
 “ next day, if even worse perhaps for his loss of blood  
 “ the day before, the bleeding is repeated—because it is  
 “ a fever. And it is the most common of all fatal blun-  
 “ ders, that in fevers, before the physician is called, the  
 “ patient has been reduced by frequent bleeding to a state  
 “ of languor and weakness, from which it is impossible  
 “ for all the power of physic to recover him. For it is  
 “ not every apothecary, no nor every doctor neither,  
 “ that knows when bleeding is proper, when not. The  
 “ fevers that have for many years prevailed the most in  
 “ this

The loss of blood, above every other evacuation, reduces the patient's strength; it relaxes the muscular fibre, and diminishes the vital principle in proportion to the quantity drawn, and frequency of the operation. It should therefore be undertaken with great caution, and not repeated without an evident necessity. Not because the blood appears of this or that quality, for its colour and consistence may depend upon causes totally distinct from the disease. Let them always retain in their minds, the admirable advice of Celsus: "Interest enim, non quæ ætas sit, neque quid in corpore intus geratur, sed quæ vires sint"<sup>16</sup>.

Whenever the idea was formed of an ulcer in the lungs, it was very natural to imagine, that balsams and gums would have the same good effects internally taken,

"this great town, are of the low lingering kind, which  
 "hardly bear once bleeding. And though things of  
 "this nature are by no means to be compared by the  
 "strict rules of calculation, I am positive it is talking  
 "very much within bounds to say that many more  
 "Englishmen die by the lancet at home, than by the  
 "sword abroad."—ARMSTRONG'S Med. Essays, p. 15.

An. 1773.

<sup>16</sup> CELSUS, lib. 2. chap. 10.

as they were supposed to have when applied to external sores. On this principle, from the earliest accounts we have on record, balsams and pectoral medicines have been constantly given in great abundance in all complaints affecting the lungs. That there is no sort of affinity between an external ulcer, and diseased lungs in which pus is secreted, must have appeared evident to every person who has had opportunities of inspecting the bodies of those who have fallen victims to Phthisis Pulmonalis. In the former part of this work we observed, that pus was not only secreted by vomicæ, but by the pressure of tubercles the parenchymatous substance was deprived of the vital principle and dissolved into pus, thereby wasting the substance of the lungs proportionably as the disease advanced; and when a cure happily takes place, the loss of substance is not renewed, as in an external ulcer; but the parts collapse, unite, and the extremities of the vessels close, the remaining part of the organ performing the office destined by nature to the whole. The cure therefore seems to take place, rather from the cause being removed and a stop being put to the

L. progress



progreſs of the diſeaſe, than by the means nature makes uſe of in external ulcers, where there is a renovation of fleſh and ſkin, and by means of a firm cicatrix the part is reſtored to nearly the ſame ſtate as before the injury. The diſcharge of matter and loſs of ſubſtance, are the only circumſtance in which they agree; and we may add, that balſams are equally ineffectual in both.

In ſome authors and thoſe of great eminence, the claſs of pectorals, demulcents, attenuants, incrassants, &c. is ſo extenſive that they ſeem to have copied the whole materia medica, rather than ſelected a few remedies for a particular diſeaſe. The good effects of theſe are ſpoken of with ſuch confidence, that the only difficulty ſeems to be, what to ſelect; and it is not incurious to obſerve, with what little variation thoſe have been handed down during the two laſt centuries. The ſimilarity between the old and the preſent practice, is a melancholy proof, how very little the profeſſion has actually been improved during that period. By peruſing  
ſome

some instances in the notes, the reader probably will be of this opinion<sup>17</sup>.

That

<sup>17</sup> The following prescriptions are copied from the Sloan collection of MSS. in the British Musæum.

No. 1. From Arden's Medical Practice, he was a surgeon at Norwich. An. 1326.

R. "The roots of comfry, the roots of liquorice, the juice of them both, the seeds of plantyne, and the seeds of crefis, temper them finely, & f. a. make an electuary, and use it."

No. 2. Ad Phthisin fumus quo Caratus fuit Mr. Norrife.

R. "Oliban. ʒi flor. sulph. ʒi incorpora cum ovi vitello & extendē super linteo ex utraque parte siccetur ad ignem, secetur in frustula magnitudinis solidi anglici, sumat ex tubo tabaci; *Mercatoriste* Phthificus desperatus sæpius recurrente purulente sputo hoc assumpto remedio iterato curatus fuit—— statim ab hausto fumi excitabatur tuficula & purulenta materia in magna copia expuebatur."—A Norwich teste Doctore CALLADON.

No. 3. MS. collection by J. Bewshine of Claverton in Com. Somerset. A. D. 1594.

R. "Three pints of running water, of Portugal sugar ʒviij and nine figs, of anniseed bruised half a spoonful, of raisins of the sun washed and stoned Mi. of maidenhair ʒi, let all these boil together, until one half or more be wasted, strain it, and drink two spoonsful every morning, and you shall find present remedy."

That medicines of this kind are universally given in complaints of the breast,  
needs

No. 4. For the chin cough in children.

R. " Three or four cloves of garlic, or more, peel,  
" bruise, and boil it in malmsey till it be very tender,  
" spread it upon scarlet, and lay it upon the breast,  
" nigh the throat, use it three days and nights, changing  
" it every day."

No. 5. For the cough of the lungs.

R. " Of chosen manna  $\mathfrak{z}$ i of the lights of a fox  
" finely powdered, of cassia, and of horehound ana.  $\mathfrak{z}$ ss,  
" oil of sweet almonds  $\mathfrak{z}$ ss, syr. of Ros. solutive q. s. f.  
" Elect. take  $\mathfrak{z}$ ss two hours before meat, before supper,  
" and going to bed."

No. 6. Loch ad sputum sanguinis cum album ovi.

R. " Sanguinis draconis  $\mathfrak{z}$ ij Amili, Tragacanth. ana.  
"  $\mathfrak{z}$ i Sem. papav. portulacæ, uvarum ana.  $\mathfrak{z}$ i terræ  
" sigillatæ vel boli armeni, rosarum rubrarum ana.  $\mathfrak{z}$ ss  
" fiat pulveris tenuiss. qui album. ovi crudo fortiter  
" agitate, ut fit tenuium partium excipiat, sumaturq.  
" eclegmati loco, cui saperis gratia saccharum rosatum  
" tabul. addatur."—From THEODORE TURQUET de  
Mayerne. A. D. 1603.

No. 7. Phthisis & Ulcus Pulmonum.

R. " Succi legrit.  $\mathfrak{z}$ ij Styrax calamit  $\mathfrak{z}$ i Opij,  
" Croci, myrrhæ æ.  $\mathfrak{z}$ ss f. pastilli fabræ magnitu-  
" dinis."

No. 8. Exptm. ad tussim, quo matrona quam in  
369 diebq. curata fuit, quæ habuit sputum saniosum cum  
tussi.

R. " Rad.

needs no proof; that they are ineffectual to the end proposed, must be obvious to every practitioner. And I am disposed to believe that they are not merely innocent, but that the indiscriminate use of oils, greasy emulsions, and linctus's frequently do much harm. The patient depending upon their supposed virtues, neglects more effectual means of relief. They relax and injure the tone of the stomach, and from their dispositions to become rancid and acrid, increase by their stimulus the complaint they were meant to relieve. It has been said, "that oily linctuses and  
 " anodyne medicines act, by supplying an  
 " artificial defence to the aspera-arteria,  
 " which is abraded, and deprived of its  
 " lubricating mucus, and thereby become  
 " exceeding sensible to cold air, or the

R. " Rad. acori, Enul. camp. ana. ℥ss Irid. ℥ij  
 " hord. excort. violarum ana. Mij Rub. tinctorum  
 " ℥ij. aristoloch. rot. ℥i Capil. vener. Mss ficuum  
 " pinguium No. x. ligrit. ras. ℥ss hyssopæ, sem. ur-  
 " ticæ a. ℥ij passul. Mss mel despumat. coch. iij Aq.  
 " lib. iijss f. Decoct. de quo bibat sæp. in die per  
 " calam."



“acrimony and heat of the humors distilling from the glands<sup>18</sup>.

This is the opinion commonly entertained, and at first view it will appear very plausible; but upon nearer inspection, will be found without any foundation, when we enquire by what means these medicines are to be conveyed to the diseased parts. We know that the smallest particle of matter getting within the epiglottis, causes violent irritation and incessant coughing till it is removed; and it surely cannot be imagined they are to go the round of the circulation.

In catarrhal tickling coughs, where a thin rheum falling continually upon the fauces and top of the larynx, irritates the parts, and excites frequent coughing, by which the natural mucus that covers them is washed off. In this case, soft oily medicines so far as they tend to supply that mucus, and defend the surface of the parts from the action of the air, may be of ser-

<sup>18</sup> BARRY, p. 218. An. 1727. Ed. 2.

FULLER on Med. Art. lohoch. An. 1740. Ed. 5.

vice. The usual forms are oily emulsions, linctuses, mixtures with spermaceti, &c. but as these compositions in some measure constantly injure the stomach, I prefer a solution of gum arabic, or a mucilage of sem. cydon. with a sufficient quantity of an appropriated anodyne. These will be found to answer every purpose intended by oily med. without any of their offensive qualities. Further than this, I presume pectorals can do no real service in diseases of the lungs. Some transient relief may be imagined in their passage down the œsophagus into the stomach, by their coolness exciting a new stimulus to the trachea; but experience will soon convince us, that no permanent relief can arise from their use. They pass immediately into the stomach where they mix with its contents, from thence into the intestines, and whether any part of them are taken up by the lacteals and carried into the blood, is a matter of some doubt; certainly not in that quantity, as to act in the nature of a healing balsam to the diseased lungs.

The idea of oily and viscid fluids, cloathing and enveloping the particles of sharp

and acrid matter in the stomach and bowels, so as to prevent their irritating and vellicating the fibres, seems more imaginary than real; particularly in the stomach, where there is so frequently an ingress and egress of solids and fluids, the small quantity of med. taken for that purpose, does not seem adequate by any means to produce the effect. For if the acrid or offending matter was in such a quantity, as to be enveloped by a few ounces of an oily emulsion or linctus taken in the course of a day, it will not be sufficient to injure the health: if it is more, the most efficacious method is to evacuate it by an emetic or cathartic.

I have frequently experienced considerable relief from the use of squills in humoral asthmas and coughs without inflammation; but as they are usually united with opium, great part of their effects must be attributed to its anodyne and antispasmodic quality; and their promoting expectoration proceeds from stimulating the stomach, and sometimes exciting vomiting.

The terebinthinate balsams and gums are liable to the same objection with the former;

former; very few of their particles entering the blood, and being of a stimulating nature, are more apt to increase than alleviate the complaint. When any relief has been found from their use in asthmatic cases it proceeds from their warmth conveying a gentle stimulus from the stomach to the lungs, and sometimes from their laxative quality.

The intelligent reader may imagine these observations useless and superabundant at this improved state of the medical science, when hot balsams and turpentine are seldom given in diseases of the lungs, and never relied upon for a cure. But I have lately, more than once, seen patients with a considerable degree of inflammation on the breast, tightness, pain, cough, and difficulty of breathing, with a full and quick pulse, swallowing bolusses of bals. Locatelli, and that not by their own or friend's advice. This is a composition of olive oil, wax, and turpentine, the last article in the proportion of one to four. Nothing but seeing the medicine, and receiving the account from the patients themselves, could have convinced me it was possible,

fible,



sible, notwithstanding my facility of belief in matters of this kind, that such a substance could at any time be taken medically, far less under such circumstances.

From these considerations I am well convinced, that oily and balsamic medicines, so far from producing any permanent benefit in such complaints, do, by their greasy viscid quality, injure the powers of the stomach, impair digestion, and very frequently by their stimulating heating nature increase the inflammation and fever, thereby aggravating every alarming symptom.

Not only in Phthisis but in many other chronic complaints, issues, caustics, setons, and perpetual blisters have been very generally used. It has been supposed that nature always striving for her own preservation, has the power of expelling what is injurious through those artificial openings, as a critical abscess, or increased discharge by the natural passages, had sometimes removed diseases. It appeared therefore probable, that the matter discharged by their means, was the diseased and noxious particles of the blood; and that in time it would work itself pure, and health be restored.

stored. That an idea of this kind should strike people of common understanding, unacquainted with the principles of the animal œconomy, is very natural; but we are surpris'd to see men of learning, of high rank and experience in the profession, entertaining such a notion. “Further, while  
“ blisters evacuate chiefly the serous humors, issues and setons generally discharge  
“ true purulent matter, and on this account  
“ may be of greatest service in internal  
“ ulcers<sup>19</sup>.” Notwithstanding the wonderful power of that principle called nature in the human body, I doubt much whether it is capable of expelling the diseased parts of the blood (if any such there are) by those artificial openings and retaining the sound.

<sup>19</sup> WHYTT, remarkable effects of blisters, p. 70. 4to. Ed. An. 1768.

“Ulcera denique externa excitata perinde interdum  
“ hæcticæ febri finem imposuerunt, dum acre irritans humorumque corrumpens massam viam nactum est e corpore emigrandi. Hinc fonticuli ac setacea idoneis locis excitata dictum in finem maxime sunt proficua; et non pauca phthiseos illis percuratæ exempla ostendit historia medica.”—WEN. TRNKΛ. Hist. feb. Hæcticæ, p. 333. An. 1783.

The

The fact is, that wherever there is a wound with loss of substance, or what is precisely the same thing, where a wound is prevented healing by the intervention of an extraneous body, there will be a discharge of matter from the mouths of the divided vessels; and the quantity and quality will depend upon the degree of tone in the muscular fibre, and in some measure upon the situation of the wound. And I believe it will be granted, without bringing evidence in proof, that an issue in a sound healthy person will discharge as much and as purulent matter, allowing for the difference in the muscular strength, as in a person labouring under a disease external or internal.

An author upon this subject, has recommended drains, which he emphatically says "*may be felt.*" Issues made in the back by caustic three inches in diameter, that when the eschar is digested, are capable of containing *fifty peas*. The greatest number of the consumptive patients being of the weak and timid sex, I fear such a remedy would be thought more formidable than the disease, were we confident of its producing

ducing beneficial effects. But this is a trifle, a fleabite, to the practice of a late French physician of some eminence. He applies actual fire in the cure of diseases, and shelters himself under the sanction of the father of medicine. “ Quæ non sanant medicamenta, sanat ferrum; quæ non sanat ferrum, sanat ignis; quæ non sanantur igne, sunt insanabilia.” As the work is but lately published, and not generally known in this country I have quoted the passage as a curiosity, and apprehend the reader will agree with me in thinking any thing further unnecessary <sup>20</sup>.

As far as my experience has extended in respect to drains of every kind, I have observed, that in proportion to the quantity

<sup>20</sup> “ Le lait à la suite d’une couche, se porta à la matrice & à la poitrine; il y avoit fièvre lente, sueurs nocturnes, crachats purulents, douleurs au bas-ventre, au pli de la cuisse, & au genou. M. Pouteau applique deux cylindres (de coton) au milieu de la cuisse, pendant la brûlure, la poitrine fut débarrassée, les douleurs descendirent dans le bas-ventre, & tous les accidents furent victorieusement combattus & détruits, au moyen d’une longue suppuration.” By the same *easy* means he informs us almost every disease incident to the human body may be cured.—Journal de Medicine, &c. Paris, Juin 1783.



of discharge they tend to reduce the strength of the patient, and are always fore, painful, and disagreeable. I have never seen any of the magnitude just mentioned; but I should apprehend the pain occasioned in a delicate, irritable, diseased habit, by an ulcer of nine inches in circumference, full of hard peas, would of itself produce a very considerable degree of fever. On the whole therefore as a general remedy I do not think myself warranted in recommending them in Phthisis Pulmonalis <sup>21</sup>.

The regular remissions in the pulmonary hectic, and its general similarity to intermittent fevers, when added to the belief of its originating from the absorption of putrid matter very naturally suggested the practice of giving the cortex peruvianus, on a principle of reasoning from its good effects in similar cases; and very often I believe it has been mistaken by superficial observers for a true intermittent. But although this medicine has been exhibited in

<sup>21</sup> That issues are of use in some disordered habits I am far from denying, but the relief seems rather to proceed from the constant stimulus they excite, than from the quantity or quality of the discharge.

every stage of the disease, and in every form and quantity, by men of the first abilities and eminence, it is a melancholy truth that there is not one instance well authenticated, of a consumption of the lungs being cured by it<sup>22</sup>. How many have fallen victims, and do daily, to the misapplication of this valuable drug is happily no part of my task to enquire; but I believe experience will justify me in asserting, that in every case in every stage of Phthisis where it has been given, the symptoms have been aggravated, and the fatal period greatly accelerated

Hectic is a term so undefined, and applied to so many fevers arising from causes totally different, that it is not to be wondered at, if the bark has cured some of

<sup>22</sup> The reader may peruse a paper upon this subject, by the late Dr. Fothergill. Med. Obs. & Inq. vol. 5. An. 1776.

“ Tot habent causas, easque multum diversas, febres  
“ lente quæ *hæcticae* vulgo dicuntur; ut non idem mor-  
“ bus, sed alius atque alius esse videantur.”—MEAD  
Monit. et Præcept. Med. p. 46. 1751.

See a paper by Dr. HEBERDEN in Med. Transf. vol 2. An. 1772. and also chap. 3. of this work.

GALEN Method. Medendi. lib. 10.

them. As for instance, in large discharges from ulcers after amputations, or from a long continuance of the fluor albus; the flesh and strength waste away, the pulse becomes quick, and a slow continued fever is the consequence; in such cases, under proper restriction, the bark is an effectual medicine. But, as I mean to confine myself to the pulmonary hectic I shall not take up the reader's time with common-place observations on other subjects.

Bark exerts its influence upon the stomach and first passages, and most probably does not enter into the blood. In augmenting the tone of the living muscular fibre, it will consequently increase the celerity of the pulse, as has always been experienced when given in the pulmonary hectic<sup>23</sup>.

I have entered so fully into the nature and cause of the pulmonary hectic in a former chapter, that I flatter myself I have convinced the reader how perfectly free and distinct it is from every symptom of putrefaction; and my opinion upon this subject, will receive additional support, by consider-

<sup>23</sup> CULLEN first lines § 920. Ed. 4. An. 1784.

ing the effects of the same medicines in each of the fevers.

In fevers termed putrid; the leading characters of which are great and sudden debility without any obvious cause, and diminution of the natural strength; the remedies found most effectual are bark, snake-root, camphor, volatiles, cordials, and others of the antiseptic class, together with a liberal use of Port wine. Let these medicines separately or conjointly be given in the pulmonary hectic, and what will be the consequence? The fever and thirst will be greatly increased, with pain, tightness on the breast, and difficulty of breathing; the fever will become continued, attended with slight delirium; perhaps nature may make an effort and relieve the constitution by the bowels; the diarrhoea will come on before its usual period, and the patient be hurried to his grave. This picture is not drawn from fancy; I have seen repeated instances of this kind in my attendance upon the sick, and the same may be seen every day, for the practice, though I hope diminished, is by no means relinquished.

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Perhaps



Perhaps there is not in England any spot where so many phthifical patients are collected together as at Bristol wells <sup>24</sup>, from the reputation those waters have long had, of being efficacious in such complaints. In proportion to the opportunities of seeing the disease, it is presumable the method of treating it would be improved, those medicines that have been found ineffectual discarded, and somewhat else substituted. But he who reasons thus, does not recollect that when once a mode of practice is generally adopted, it continues with the practitioner for life: at the hot wells, bark and animal food are regularly prescribed in the confirmed Phthisis. Since the first impression of this Essay, several patients have applied to me who had been at Bristol wells and treated in that manner; and as might be expected, grew worse and worse, till wearied out at length they crawled away, that they might die among their friends, and be buried in their own country.

<sup>24</sup> The town of Bristol was formerly remarkable for the number of its consumptive inhabitants.—Vide CHRISTOPHERI BENEDICTI Theat. Tabid.

## CHAPTER VII.

*Phthisis why difficult of cure—intentions of cure—bleeding—aperients—anodynes—purgatives—emetics of different kinds—blisters—setons—hydrargyrus—in what the lungs differ from other parts of the body—wounds—effects of vomiting.*

I HOPE the reader will pardon me for dwelling so long on the subject of the last chapter, as it appeared essentially necessary to the design of the work, before a method of cure should be proposed, to examine on what grounds those medicines which have been for ages in the possession of the physician, and familiar to the patient's mind, were excluded. And though this to the learned and experienced may appear unnecessary, yet, as it is possible these pages may fall into the hands of those who are just beginning their medical career, it will be matter of great importance, to guard their minds against the impression that may be made upon them by the pompous recommendation of pectorals and balsamics, and to caution them against the general and indiscriminate use of such medicines.

For I know not which is most difficult, to eradicate prejudices early imbibed, or to introduce a mode of practice that is opposite to, and different from, that in common use.

No term can be more properly applied, than that of *consumption of the lungs*, to the disease now under consideration; for their substance is literally consumed and melted into pus. The matter formed in the tubercles acting as a solvent on the neighbouring parts, being rendered impervious to air, indurated and deprived of the vital principle (vide Hewson) in a manner, perhaps somewhat similar, to the action of the *fuccus gastricus* upon aliments taken into the stomach, being also previously deprived of the living principle; live worms not being destroyed by it, as is known by constant experience. Hence it will appear how false and void of foundation the theory is, which supposes an *ulcer* in or upon the substance of the lungs, to be similar to one upon the surface of the body, and like that, to require deterging, incarning, and finally cicatrifying. Whereas, when *Phthisis Pulmonalis* is cured, it is invariably and uniformly

uniformly with the loss of substance. The air cells can never be restored. This observation will require the most serious attention; as the old opinion has had a very considerable influence upon the manner of treating the disease <sup>1</sup>.

Authors, ancient and modern, who have written upon consumption of the lungs generally agree, that it admits with difficulty of a cure even when recent, but in the advanced stage, for the most part it terminates fatally <sup>2</sup>. This is a melancholy truth,

<sup>1</sup> Vide Med. Essays of Edin. Vol. vi. p. 121.

<sup>2</sup> "When once a single point of the lungs is obstructed, or the smallest ulcer formed, the disease becomes alike formidable, the age and habit of the patient, and the degree of inflammation or ulceration being the same, whatever may be the cause."—FOTHERGILL on Consump. Med. Obs. vol. 4. p. 243. An. 1772.

I cannot agree with this very respectable physician. It is well known, and I meet frequently with cases of incipient Phthisis, where the hectic fever being completely established, there cannot be a doubt of the existence of tubercles, that readily yield to proper treatment. The eminent author supposes obstructions to be formed in the smaller blood vessels, and increased by the momentum of that fluid. This is the old hypothesis of



truth, too evident to be denied; every day's experience evinces how little the disease is under the power of medicine. But although consumptive patients very generally fall victims, yet I can see no reason that the disease must be of necessity, and in its own nature incurable; and I am disposed to believe, that this opinion of its fatality being handed down from such respectable authority, and so generally adopted, has weakened the efforts of the physician, and, instead of varying the treatment, and attacking the disease in its strong hold, he contents himself with the use of palliatives, and consigns his patient to country air, butter-milk, and boiled apples<sup>3</sup>.

In the works of surgical writers, we meet with instances of wounds in the lungs being cured with as little difficulty as those of any other viscus; and we have absolute proof from dissection, of Phthisis

inflam. which is not supported by experience. Blood obstructed in vessels, and not admitted to the air, does not become pus.

<sup>3</sup> CULLEN first lines, Phthisis Pulm. vol. 2. Ed. 4. An. 1784.

being

being cured in its advanced stage, when one entire lobe of the lungs, and that the largest had been consumed by the disease<sup>4</sup>.

In authors we find frequent instances mentioned of consumption, in every stage and degree, being cured by various and different means<sup>5</sup>. How far implicit faith is to

4 MUDGE in his treatise on the Catarrh, mentions a man who died in St. Thomas's hospital, after having perfectly recovered from a consumption of the lungs, for which he was in the house formerly. The body was opened, and only one lobe of the lungs was found remaining, the right having been entirely dissolved and expectorated.

5 " Vidi enim, cum materiæ purulentæ usque adeo  
" graveolentis et fœtidæ, ut adstantes cubiculum ferre  
" non possent, libra una aut altera, admisto sanguine,  
" tussi rejiceretur ; et tamen lacteæ diætæ et balsami-  
" corum usu, interpositis pro re nata anodynis, in inte-  
" gram sanitatem æger restitutus est."—MEAD Monet.  
et Præcep. Med. p. 53. An. 1751.

A hectic fever with purulent spitting cured.—P.  
FOREST, l. 4. Obs. 4.

A hectic fever with night sweats and copious expectorations cured.—HOFFMAN Med. rat. Obs. 10.

In the Westminster Dispensary (we are told) that out of 212 cases of consumption, 138 were cured, which is nearly two-thirds.—MILLAR Obs. on the management of prevailing diseases, &c. 1783.

be given to those relations, must be left to the reader's determination.

Complaints in the breast, when taken in time, are easily removed; but their frequency in this variable climate, renders them so familiar to the inhabitants, that they seldom think of seeking advice before the disorder has made a considerable progress. The number of infallible remedies stored up in every family also tends to preclude the physician; and when he is called, it is inconceivable with what difficulty he gets his directions complied with in any tolerable degree. Those who can labour incessantly to acquire wealth and honours, can scarcely be persuaded to give themselves any trouble in regaining their health, the greatest of all blessings, and without which all others become as nothing. On the other hand, pleasure and dissipation, the employment of the many, raise powerful barriers against medical restriction. When people are slightly indisposed and able to go abroad, they are not easily persuaded to forego what they esteem a present good, in order to avoid a distant, and what they wish to believe, an uncertain evil.

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These are among the causes that render pulmonary consumptions so difficult to be cured, and not the nature of the disease; which, from experience, I am disposed to believe curable at any period<sup>6</sup> before the vital strength is greatly broken down, and the stomach and digestive faculties rendered incapable of assimilating nourishment<sup>7</sup>.

There

<sup>6</sup> “ Atque hinc fit, quòd Phthisis vulgò tam malè  
“ audiat, ac si esset morbus naturâ suâ prorsus incurabi-  
“ lis, quum (quantum ego longâ experienciâ edoctus  
“ scio) æquè certam curationem, atque alii morbi admit-  
“ tat, modo debitâ methodo, satîs tempestivè tractetur.”  
—MORTON *Phthisiologia*, p. 171. An. 1689.

<sup>7</sup> That digestion is not performed by trituration, by fermentation, or by putrefaction, but by the gastric fluid acting as a solvent, I believe is now the general opinion. But for this purpose it appears necessary, that the body should retain a certain degree of health; or, in other words, that the disease should not be continual, as in that case the body would not be nourished. If we may be allowed to reason from analogy, this idea has been placed in a clear point of view by the learned and indefatigable Abbe Spalanzani: he found, upon introducing food into the stomach of animals not in health, that the gastric fluid did not dissolve it; whereas in the same species when healthy, the same kind of food was readily dissolved. Food not dissolved remains to putrify, and thereby adds to the disease. Admitting this reasoning, which appears  
con-



There have even been instances of recovery after the diarrhœa has been confirmed ; and if we reflect on the wonderful powers of nature, in removing the cause, and obviating the effects of disease, it will be difficult, and perhaps imprudent, for a physician to determine what is incurable. Formerly, it was the fashion in desperate cases, when the usual means failed of producing the expected effect, for the doctor to quit the field, and after pronouncing a formal sentence, abandon the patient to what he supposed inevitable death. But as it often happened that nature triumphed over the disease, and the sick unexpectedly recovered ; the present practice, actuated by better judgment, certainly by more humanity, consider a recovery always possible whilst life remains ; and even if their endeavours should be apparently and obviously ineffectual, it is great consolation to the distressed, to see every possible means used for their relief ;

consonant to every day's experience, it strongly points out the folly, absurdity, and fatal consequence of pressing animal food upon the sick, so universally the custom in this country.—See Dissert. on the Nat. Hist. of Animals, &c. vol. I. § 152. A. D. 1784.

at

at least it is a ground for hope, their last and only comfort<sup>s</sup>.

In Phthisis Pulmonalis, the intention of cure is, to obviate the occasional causes of fever that may be lodged in the stomach and first passages; to remove obstructions in the hypochondriac viscera; to evacuate the purulent matter from the lungs by the speediest possible means; to appease the cough, and to give rest to the tender inflamed

<sup>s</sup> Since the publication of this work, I have attended many persons in every stage of Phthisis, and frequently have had the satisfaction of seeing a perfect recovery take place; often also, the regret of seeing them perish. A case, the farthest advanced in the disease that I have ever seen recover, was a Mrs. And—'s, a middle aged married woman, who had been ill three months when I first saw her. Her legs were constantly swelled; she spat matter freely, had profuse morning sweats, and frequent returns of diarrhoea. She was so much reduced as very often to faint in passing from the bed to the fire-side, and was emaciated to a great degree. Cough, and other attending symptoms of the disease. In this condition she had the resolution of persevering in my plan most strictly, and was restored to perfect health. She bore several healthy children after being well, and nursed them herself. I do not mention this as a solitary instance of a recovery, when in the advanced stage of the disease, but as a singular recovery from a situation apparently the most desperate and hopeless, as a ground of hope even in the worst cases.

lungs;

lungs; to regulate air, exercise, diet, and the passions of the mind.

The recent effects of cold are so well understood, and may be so easily removed by the common means of bleeding, diluting drinks, abstinence, and the usual antiphlogistic plan, that any directions to that purpose would, to the medical reader, be perfectly unnecessary.

When from a bad habit of body, or neglect, the cough remains obstinate, dry, and sonorous, with pain in the breast, stitches in different parts of the thorax, increased upon coughing, and attended by a considerable degree of heat and fever; I would recommend bleeding in a moderate quantity, and to be repeated at proper intervals till those symptoms abate, if there is nothing in the pulse or strength to forbid it: in this period of the disease the patient usually bears the repetition of the operation without any bad consequence. The body is to be kept open with gentle saline purgatives, drinking frequently of barley water or linseed tea; and if the cough prevents rest, a proper dose of an opiate at bed-time will have a good effect. Since the first impression of this  
work,

work, I have sometimes found the Elix. Pareg. which I there recommended, heat the patient, and increase the fever; I therefore generally use the Syr. Pap. Alb. or if that is not sufficient the T. Opij. and these in such quantity as shall certainly produce the effect desired.

In the beginning of all diseases attended with fever, it is essentially necessary that the intestines should be perfectly cleaned from the quantity of digested matter and fæces, which in health they always contain. Common purges will not be sufficient; I have frequently known patients have many copious stools daily, for many days together, and yet on giving a dose of Merc. Dulc. and Rhab. a quantity of hard fæces, highly putrid and offensive, has been discharged, to the great abatement of the disease. I therefore always wish to give this medicine where it can be complied with, and if properly dosed, it will be found to operate without ruffling or disturbing the constitution<sup>9</sup>. In robust habits, when the cough is severe, after bleeding freely, a dose of

<sup>9</sup> See LYSON'S Practical Essays, p. 70. An. 1783. Ed. 2.



Calomel and Pulv. Jalap, that will act smartly, frequently makes such an impression on the complaint, that in future it gives very little trouble. After these general evacuations, the remedy which I have found most effectual in every kind of cough, and in every period of Phthisis, is such a quantity of the Pulv. Ipecac. with or without Zincum Vitriolatum, as will excite vomiting several times, and this I repeat every morning, and sometimes also in the evening, as the strength of the patient, and the violence of the complaint may indicate<sup>10</sup>. This medicine the patient can take without fatigue, or impairing the strength; but I cannot approve of the emetics usually given, which operate eight or ten times, distressing the sick, and very often in delicate habits, producing disagreeable consequences.

<sup>10</sup> “ Vomitoria lenia debitis intervallis repetita, (præsertim verò si cum εὐφορία ferantur, neque nimis særò exhibeantur) multùm ad hujus phthificos curationem promovendam conferunt; utpote cerebrum et genus nervosum deoppilantia, et Rheumaticos dolores minorantia rigiditatem et stuporem febrosi generis universalitè sublevando; quo fit ut causa procatactica, seu fomes hujusce Phthificos, plurimùm subtrahatur.”—MORTON Phthis. p. 313. An. 1689.

The sympathy subsisting between the stomach and other parts of the body is so universal, as to have inclined the ancients to imagine the soul seated in that organ. Upon the state and condition of the stomach depends our health, spirits, nourishment, and the very existence of our frame; its influence extends to the remotest part of the body. But as this matter will be treated of in the appendix, I shall not enlarge upon it here.

The lungs, from their contiguity, will necessarily be affected in a peculiar manner by whatever is received into the stomach<sup>11</sup>. If the stomach is loaded with a large quantity of food, during the process of digestion, the air contained in it being set at liberty and rarified, that organ will be distended, and by pressing the diaphragm upwards, the cavity of the thorax will be diminished, con-

<sup>11</sup> “Cui ut in illo casu non refragemur, nec in aliis  
“fortasse in quibus multo prius ab exteriori illa causa  
“læsiones ventriculi quam pulmonum, animadvertantur  
“unde malè ciborum confectio viscidos, acresve succos  
“paret, qui et stomachum vellicando, tussim excitent,  
“et in pulmonibus tandem subsistendo, irritandoque,  
“causam præbeant phthisis.”—MORGAGNI de sed. &  
caus. Morb. L. 2. Ep. 22. Art. 20. An. 1761.

frequently

frequently the lungs confined in a smaller space than usual will be incapable of being expanded by inspiration, and thereby the motion of the blood through the pulmonary artery and vein impeded. If the lungs are diseased, the cough will be greatly aggravated; hence asthmatic people find their difficulty of breathing increased after meals, and during digestion. Should the quality of the food be acrid, acid, stimulating, or furnishing a quantity of rarified air, the nerves of the stomach will be disagreeably affected; that affection will by sympathy be conveyed to the nerves of the neighbouring parts; and when any part of the body is in an inflamed state, the nerves of that part acquire an increased degree of sensibility and irritability; therefore the lungs, when inflamed, will be sensibly affected by the quality or quantity of the matter contained in the stomach. And I am disposed to believe, that whenever any of the hypochondriac viscera are in a diseased state, be it more or less, the lungs when inflamed will be affected by them. And even when the lungs have been perfectly sound, acrid matter or worms in the stomach and bowels, have  
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occasioned, and continued an obstinate cough<sup>12</sup>. In such cases, will the greatest advocate for balsamics and pectorals say, that the cure could be effected without evacuations appropriated to the cause?

As it is of general notoriety; and within the sphere of every persons observation; that we are easily, quickly, I may say instantaneously acted upon by taking opiates, cordials, and poisons<sup>13</sup> into the stomach, from the action of their particles upon the nerves and lymphatic vessels, and by sympathy upon the whole system; is it not also reasonable and just to conclude, that different parts of the body will also by sym-

<sup>12</sup> “ Si verò Ventriculus nutrimenti primaria officina  
“ crudâ aut pituitosâ congerie laboraverit, unde haud  
“ rarò compatitur pectus, secundo quoque die lente elua-  
“ tur oxymelite, aut melle scilicet: syrupo de peto querci-  
“ tani, (vel unica at mediocri dosi vini benedicti) ex sero  
“ lact. cerevisiati, aut decocto pectorali repente propi-  
“ natis.”—CHR. BENEDICTI Theat. Tabid. p. 156.  
An. 1656.

“ Tabes ab abcessu ventriculi sese monstrat foetidis  
“ eructationibus, tussi sine expectoratione.”—HOMÆ  
princip. Med. p. 138. An. 1762.

<sup>13</sup> Laurel water sometimes destroys life the instant it reaches the stomach. The bite of the rattle-snake in any part of the body kills in a few minutes,

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pathy be affected when offending matter is irritating the nerves of the stomach? For surely no person will say that cordials, opiates, and poisons produce their effects by their being absorbed by the lacteals, and entering the circulation!

Opiates received into the stomach quiet a cough, not only from their general effects upon the nervous system, but from the particular sympathy subsisting between the lungs and the stomach: in the same manner coughs are excited by different matter acting upon the stomach, and by sympathy upon the lungs.

In the tussis convulsiva or chin-cough, it is well known what sensible relief is produced by repeated vomiting; and indeed, there is no other medicine that can be depended upon in relieving that distressing complaint <sup>14</sup>.

<sup>14</sup> “ But in most cases, and in every stage of the disease, I have chiefly trusted to this process; (vomiting with tart. emetic daily) seldom having occasion either to bleed, or to use any other kind of evacuation, unless to procure a stool or two daily, if the medicine above mentioned fails in this respect.”—FOTHERGILL on the Chin-cough, Med. Obs. vol. 3. An. 1769.

By administering emetics in the manner here recommended, not only the contents of the stomach are evacuated, accumulation of viscid phlegm and acrid bilious matter prevented, but the lungs being compressed during the action of vomiting, whatever mucus or purulent matter are in the ramifications of the bronchia and air vesicles, in tubercles or vomicæ, will be squeezed out and discharged; by which means an infinity of laborious coughing will be prevented, the patient feels greatly relieved, and the tender lungs remain at rest till a fresh accumulation of matter is formed, and that will require some time.

Whoever considers the effects of vomiting as being confined merely to evacuating the contents of the stomach, must indeed have considered them very superficially <sup>15</sup>. By the universal concussion and agitation they occasion, obstructions in the

<sup>15</sup> “ For the great efficacy of vomits lies in the throws  
“ and spasms on the muscles of the abdomen, by which  
“ the obstructions in all the glands are forced open, the  
“ size in the juices is broken and divided, and the per-  
“ spiration rendered pervious.”—CHEYNE *Dis. body*  
and mind, p. 247. An. 1742.

liver, biliary vessels and chylopoetic organs are attenuated and removed <sup>16</sup>: and in all complaints arising from those causes, it is the most powerful and certain alterative that can be found in the whole *materia medica* <sup>17</sup>.

Custom has such a powerful influence upon the human mind, that it is extremely difficult to act in opposition to it. From the effect of fear on the weak and timid, from pride and prejudice in those who are better informed, innovations in medical practice meet with inconceivable difficulties. The practice I am recommending stands in this predicament; but time, which is equal to power, by convincing people of its efficacy, and making it familiar to their imaginations, I have no doubt will remove

<sup>16</sup> HUXHAM on Fevers, p. 229. An. 1757.

<sup>17</sup> Since the first publication of this essay, the method of giving gentle vomits fasting in pulmonary complaints has been adopted very generally, not only in this country, but on the Continent, and particularly in America, where medical knowledge is pursued with a diligence highly to be commended. The translations into French and German has probably contributed to extend the practice.

every opposition. Magna est veritas et prevalebit.

Patients at first, are apt to be alarmed at the novelty of the prescription, lest by taking *pukes* every day, the tone of their stomachs may be injured, and such ideas never want support from the ignorant and interested; but I can safely affirm, and I am warranted to do so by the best of all tests, experience, that I never saw any bad effects from a course of this kind continued for several months, with proper precautions: on the contrary, I have scarcely met with one instance where the general health was not materially improved. For the satisfaction of the reader, I shall in the appendix adduce further authorities for this practice.

A critic upon the first impression of this Essay, (whose opinion delivered with liberality and candour deserves every respectful attention) thinks the Tartar Emetic preferable to the Ipecacuanha in Pulmonary complaints<sup>18</sup>.

The Tartar Emetic from different shops, whether from the manner of preparing it, or

<sup>18</sup> Critical Review for January 1783.



the time it has been kept, differ much in its degree of operation. This uncertainty in its operation independent of its sedative effects, is often very distressing to the patient, and renders its use much less general than it would otherwise be. It acts in the same person with different degrees of violence, even when the intervals have been short. It soon grows familiar to the stomach, sometimes requiring the dose to be increased after once taking. Whenever it does not vomit, it certainly purges, and that with a considerable degree of force. This in Phthisis is anxiously to be guarded against, not only because of the weakness it occasions, and which is very material, but because when once a purging has been produced, whatever may have been the cause, it is very difficult to be restrained. In some constitutions I have found no quantity that could be given with safety would occasion vomiting, but exerted its whole influence upon the bowels. The Ipecacuanha may be given in large doses with safety, and will to a certainty produce vomiting; when it fails from being under-dosed, though it will purge, it is infinitely more gentle and free from griping than the Tart. Emet.

The

The dose of Ipecac. like every other med. continued for a length of time, requires to be increased, but with a little practice this may be done, and the operation regulated with sufficient exactness. In order to decrease the volume of the medicine, which in time becomes disagreeable, I have sometimes added a small proportion of the Tart. Emet.

For these reasons I prefer the Ipecac. to every kind of antimonial preparation, because it acts with greater ease and certainty. I usually begin with a small and under-dose, according to the age and circumstances attending the patient, and gradually increase it as I find occasion.

An author upon this disease<sup>19</sup>, has recommended the Vit. Roman. because it acts quickly. This is a good reason for the ease of the patient, which I own at all times ought to be consulted; but I am inclined to believe, the emetic will have the most permanent good effects when it remains sometime in the stomach, fifteen or twenty minutes, before it operates. I have

<sup>19</sup> SYMMONS on Consumption, An. 1780.

not had any experience of this med. being always deterred by the violence of its action. I was lately consulted by a young man in the last stage of the disease, who had been for twelve-months taking medicines (without any advice) that were recommended by such authors as he could procure. After taking great quantities of bark, he took the Vit. Roman. and increased the dose to twenty grains. It operated most violently, yet he thought himself always cooler and stronger after it.

In the very beginning of the complaint, when indeed, the physician is seldom consulted, if there is any suspicion of a retention of bile, a small dose of the Tart. Emet. will have a good effect; for, from what cause I know not, it evacuates bile better than the Ipecac. During the operation of these gentle emetics, unless the patient strain much, it is not necessary any thing should be drank; and as the intention is only to excite vomiting once or twice at most, even when much reduced, they do not find themselves fatigued by it. However violent and unnatural the action of vomiting may seem, and really some-

sometimes is, it is well know not to weaken the patient, and reduce the strength near so much as a common purge, even when the vomit is taken in the usual method<sup>20</sup>.

This medicine I continue through every stage of the disease, regulating the repetition according to the strength of the patient, urgency of the symptoms, and as other circumstances may indicate. In the morning it is best taken fasting, and if the patient is weak, in bed; but they should not fall asleep after it, as that sometimes prevents its action on the stomach. It is seldom necessary to repeat it in the evening; when it is, care should be taken that the operation may be finished before the usual hour of going to bed. It may not be improper to observe here, that as patients usually think medicines less offensive in the form of pills, than in any other, if the Ipecac. is given this way, they should be made fresh the same day they are to be taken; otherwise they become so hard, as to require a long time in dissolving, and therefore sometimes pass whole or act solely upon the intestines,

<sup>20</sup> CHEYNE *Dis. body and mind*, p. 150. An. 1742.



to the disappointment of the patient, and embarrassment of the physician.

In the early period of Phthisis, when the fever and heat are considerable, attended with pain and uneasiness in the breast, and frequent cough, small doses of Nitr. Purif. or the common neutral mixture with such a quantity of the Ant. Tart. as will occasion a slight nausea, given three or four times in the day, will have a good effect. To this may be added a few grains of Ipecac. for the morning dose, in order to excite vomiting once or twice. In disorders of an inflammatory nature I have found this powder a very useful medicine. It is frequently kept as an Officinal in the proportion of Nitr. pur. gr. xv. Ant. Tart. gr. i. Constant attention should be paid to the state of the bowels: one motion at least should be procured daily, for which purpose I usually direct a pill to be taken at bed-time when needful, composed of Calomel. gr. i. Pulv. Jalap. gr. ij. ad gr. v. It will act mildly, and in most habits produce a loose motion in the morning. This medicine I have of late years preferred, not only as clearing the bowels more effectually than any other,  
but

but with a view to its acting as a deobstruent on the glands of the intestines.

When by these means the fever and heat are considerably abated, and before purulent matter appears in the spitting, I have sometimes used the hydrargyrus in small doses, with singular advantage, particularly where I suspected the liver to be affected; but the cases having been few, and it requiring great precaution, the judicious physician must determine from the symptoms and other circumstances, the quantity and mode of giving it. For I should be very cautious in recommending any medicine here, that I was not warranted to do from the fullest conviction of its propriety, and that conviction can only arise from long experience.

Since publishing this caution, I have in several cases directed the hydrargyrus with considerable benefit, and can therefore recommend it with more confidence. In the first period of the disease, small doses of calomel given at bed-time, as before observed, keeps the bowels regular, and removes obstructions in the viscera and glandular system. Or the hydrargyrus cum creta may be given two or three times in the day. I have found it  
relieve

relieve the principal symptoms and diminish the morning sweats. But it is carefully to be observed, that if there is any tendency to a looseness this medicine must not be given, because, notwithstanding every precaution, it will infallibly run off by the bowels. One or even two motions should be procured in the day during its use, to prevent the possibility of the mouth being affected. In this stage of the disease when tubercles are formed, but before matter is expectorated, I am disposed to think the hydrargyrus may produce very considerable relief, from its pervading the absorbent system, and acting as a powerful deobstruent. In the second stage, when pus is freely discharged, and the bowels yet sound, although I should not hesitate to try its effects, the success is much more doubtful.

If the cough is so violent as to prevent sleep, a dose of the Syr. Pap. alb. or Tinct. Opii, should be taken early in the evening going to bed, and repeated in the middle of the night if requisite, it being essentially necessary to keep the lungs as quiet as possible; the agitation of coughing not only fatigues the patient, but increases the inflammation,

mation, and hastens the solution of the tubercles. But these symptoms will be most effectually prevented by the repeated vomits, which I have rarely seen fail; for in a few minutes that quantity of matter or mucus will be discharged from the lungs, which would require many hours to bring up by coughing. And even the constitutional annual coughs that old people are subject to in the winter, very frequently yield to this method of treatment in a short time<sup>21</sup>.

After the pus has appeared in the expectoration, and the morning sweats are profuse, I have for some years been in the habit of uniting the *Zincum Vitriolatum* with the *Ipecac.* to the quantity of three to

<sup>21</sup> “ A woman about thirty, in the winter of 1762,  
“ after a very severe lying-in, being much weakened,  
“ and having a cough with difficulty of breathing, which  
“ often approached to suffocation, was for some time  
“ treated with other medicines, upon a supposition of  
“ her being unequal to the fatigue of repeated emetics.  
“ But making no progress with castor, or gum ammo-  
“ niac, or squills, I at last ventured to prescribe half  
“ a scruple of *Ipecac.* every other morning. She bore  
“ very well the fatigue of this method; and after con-  
“ tinuing in it between a fortnight and three weeks,  
“ was perfectly cured of her asthma and cough.”—*AIK-  
ENSIDE Med. Transf. vol. 1. An. 1772.*



six grains for a dose taken fasting, and with apparent benefit. Although the operation is quicker on the stomach, it acts as a tonic on the general system.

When there is a fixed pain in the breast or sides increased by coughing, that is not relieved by bleeding and the antiphlogistic med. usually given, I have seen good effects from a small blister applied upon the part, and repeated as soon as the skin is healed. This method answers better than using the blistering ointment, which always occasions great pain and soreness, and seldom produces a copious discharge. Instead of bleeding at the arm in those local pains, leeches applied will sometimes relieve without weakening the habit, which bleeding never fails to do.

If there is any suspicion of matter being collected in the cavity of the thorax, and the symptoms are either not so clear and determined as to warrant the operation for the Empyema; or if they are, the fears of the patient will not allow it to be performed, a Seton made as near as possible to the part affected, will often be found to produce considerable relief.

We sometimes meet with a violent cough occasioned and kept up by causes totally distinct and separate from the lungs, and in which they are no ways concerned. Infarctions of the liver<sup>22</sup>, worms in the stomach and intestines, and offensive matter in the stomach have been known to produce this effect. In the low fever called nervous, a troublesome cough is a very common symptom, but only in an erect posture. In such cases I need not observe how ineffectual the usual treatment would prove.

The lungs differ from every other part of the body in many respects, but particularly in the following. Their substance is more vascular, and a greater quantity of blood passes through them in a given time<sup>23</sup>. The aspera-arteria minutely ramifying through every part of their substance, terminating in air vesicles, is peculiar to them. And by respiration they are kept in perpetual motion. These differences subsist throughout life, in sickness and in health.

<sup>22</sup> Clossy Obs. An 1763.

<sup>23</sup> The velocity of the blood through the lungs, according to Dr. Hales's calculation is at least five times greater than that in most other parts of the body.

When

When the lungs are diseased, their motion is not only increased by respiration being more frequent, but they suffer for the most part violent concussions by means of coughing. This circumstance attending no other viscus, renders such disorders more difficult to cure; for all authors agree in this, that rest is absolutely necessary to parts when inflamed.

If by any means the cough could be prevented, I presume diseases of the lungs would be nearly in the same state, and admit of a cure as readily, as those of any other internal part equally inflamed. I say nearly, because they would still be subject to increased motion by the frequency of respiration; but this does not appear to me of great importance, because it is both natural and familiar, taking place upon any exercise or quick motion of the body.

Wounds in the lungs by a small sword or pistol bullet, if the larger vessels are missed, we find admit readily of a cure. In such cases there is no obstruction in the exhalent vessels, no mucus or pus secreted into the bronchia to excite a cough, and consequently no hectic fever; therefore the wound heals

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up readily, as it would do in any other viscus, by divided parts collapsing and uniting, probably by the first intention. It is the external air that causes digestion in wounds without loss of substance, which heal up much sooner, and more easily when it is excluded <sup>24</sup>.

When the cough in consumptive cases has continued any length of time, it either proceeds from affection of the alimentary canal and hypochondriac viscera, acting by sympathy upon the lungs; or from mucus and purulent matter secreted into the air vesicles, and branches of the aspera-arteria, by irritation exciting incessant coughing till it is discharged. The consequence of this reite-

<sup>24</sup> “ It has been commonly supposed, that an hemoptysis was naturally, and almost necessarily, followed by an ulcer of the lungs: but I will presume to say, that, in general, this is a mistake; for there have been many instances of hemoptysis occasioned by external violence, without being followed by any ulcer of the lungs; and there have also been many instances of hemoptysis from an external cause, without any consequent ulceration. And this too has been the case, not only when the hemoptysis happened to young persons, and recurred for several times, but when it has often recurred during the course of a long life.”—CULLEN first lines, § 864. Ed. 4. An. 1784.



rated concussion is, that the disposition is continued in the exhalent vessels of secreting viscid lymph or purulent matter; by which the larger tubercles are dissolved, and new ones formed; and also by the general pressure, the parenchymatous substance is condensed and rendered capable of being melted into pus.

The exciting cause in the first passages may with certainty be removed; and those in the lungs greatly, if not entirely obviated by the frequent use of gentle emetics, given in the manner directed. When the cough is prevented, or even considerably alleviated, the inflammation will readily disperse, the immediate or proximate cause of its continuance being removed<sup>25</sup>.

By these means the stomach and first passages, the biliary vessels and hypochondriac viscera, will by the frequent concussions and agitations during the action of vomiting, have their obstructions attenuated and removed; their secretions will be restored to a natural state, digestion will be

<sup>25</sup> "If any remedy is capable of dispersing a tubercle, I believe it to be vomits."—SIMMONS on Consumption, p. 66. An. 1782.

properly performed, good chyle will be produced, and consequently the quality of the blood will be mended, the body nourished, and health again be established. And as I am disposed to believe that the major part of the diseases incident to mankind originate from a morbid state of the stomach and bowels, or from putrid and offending matter lodged in them, our curative indications should be directed primarily, and principally, to remove from them every exciting cause. When that is accomplished, nature will exert the wonderful powers with which the Omnipotent Author of the universe has endowed her, of renewing the healthy action of the system, and restoring the parts of the body to a sound and perfect state.

As emetics are known, and acknowledged to be the most active and powerful agents in medicine, they should be used with great caution and circumspection. The judicious practitioner will weigh and consider the symptoms and situation of the patient; and although there are few cases in which they may not be used with safety and advantage, yet he will sometimes find them improper. No person can be more persuaded of their

good effects, and of their propriety in almost every disease than I am; yet, let not the reader presume from this, that they are to be given indiscriminately, or that from my praising them so much, I mean to insinuate that they will cure every disease, in every situation and circumstance. During pregnancy in weakly women, though they often vomit spontaneously, emetics as they act in a different manner on the system are very apt in the first months to occasion abortion. In such cases, I think they should be used very seldom, or indeed entirely omitted, I should not venture to give this caution, which militates against the practice of the first men in that line of the profession, if I was not convinced of its propriety from several instances which have occurred in my own practice. When the stomach is inflamed emetics are highly improper; and in some other diseases, which being generally known, and foreign to my subject, need not be enumerated.

Some people are so unfortunate as to vomit with great difficulty, and are acted upon in an uncommon manner by medicines of this kind. I therefore, as a general direction,  
recom-

recommend to begin in all cases with a small, or under-dose, repeating and augmenting it according to the effects upon the disease, at longer or shorter intervals; and whenever it is found to disagree with the patient, its use must be discontinued, or omitted altogether; but in the course of my practice, such cases have very rarely occurred.



## CHAPTER VIII.

*Treatment in second period—~~astringents and opiates—~~  
~~cessation of the menses—myrrh and its preparations—~~  
~~third period—convalescence—tonics—case of hepatic con-~~  
~~sumption.~~*

WHEN purulent matter or pus is mixed in the expectoration, I am very cautious in ordering the bleeding to be repeated except when the fever runs high, the pulse full and hard, with frequent pains and stitches in the breast and sides, increased on a full inspiration, and then it may be done with safety and relief<sup>1</sup>; always carefully attending to the patient's strength, and not influenced by the appearances on the blood, which is so generally looked upon as a cri-

<sup>1</sup> “Nec quidè̃m ipso venæsectio hîc convenit, nisi ad præcavendam inflammationem Peripneumonîcam, quod ties scil. à dolore Pleuritico, potatione liberaliori liquorum Spirituosorum, à frigore recens percepto, atque aliis ejusmodi, Medico sagaci eam præ foribus esse suspicari liceat. Atque tunc etiàm sanguis, ob tabem præsentem et virium languorem, parcâ potiùs manu ventilandus, quàm profusè extrahendus.”—MORTON Phthis. p. 174. An. 1689.

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terion, and which we have already proved is so very precarious and uncertain.

The patient being arrived at the second period of the disease, when he spits up matter freely, when the cough is frequent and violent, especially in the morning; and at other times in a recumbent posture; when the hectic fever is completely established, with regular remissions and colliquative morning sweats. The intention of cure is then, to evacuate the pus in the speediest and most easy manner; to allay the distressing cough, and give ease and rest to the inflamed tender lungs; to check the profuse discharge by the pores, and support the vital strength, the tone of the muscular fibre.

If the purulent matter can be evacuated from the vomicæ as often as it is collected, not only absorption (supposing it took place) will be obviated, but the pus not being deposited in the air vesicles and ramifications of the bronchia in such quantities, much laborious coughing will be prevented, and the lungs acquire rest, the great desideratum. By this means the disease will be reduced nearly to the state of a single vomica, which

we have before observed, often subsists for many years, even during a long life, without fever or danger; except just when it bursts, lest the matter when in great quantity should choak the patient; but from certain internal feelings, they know when the matter will appear, and guarding against it there are few instances of its producing bad effects.

These desirable purposes can only be answered by exciting to vomit frequently, in the manner directed in the preceding chapter. It is wonderful to observe the effect of this simple remedy<sup>2</sup>; the patients themselves are often astonished at the re-

<sup>2</sup> “Egregiam verò vim medicaminum emeticorum sæpiùs in eo expertus sum, quotiès scil. in maximo discrimine versari videbatur, à gradu asthmatis aucto; et ab inappetentiâ, & maximo languore indè consequenti.”—MORTON Phthis. p. 241. An. 1689.

“A Vomitorio levamen universùm sensit, idque non tantùm à symptomatis Phthisicis, verum etiàm Rheumaticis.”—Ibidem, p. 317.

“Sometimes if the strength of the patient will bear it, and the looseness remit not with the purging remedies, I prescribe a dose of the Indian root (Ipecac.) and work it gently off, which oftentimes gives great relief when all other med. fail.”—ROBINSON on Consumption, part 2. p. 54. An. 1727.

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lief they experience, and confess it in the warmest terms. As by vomiting, a quantity of matter is immediately discharged from the lungs, they are sensible of instant relief, they breathe with less difficulty and remain many hours almost free from coughing; their spirits get up, and as they sometimes exclaim, they feel themselves in another world.

Although in some cases it is difficult to persuade the weak and timid to begin such a course, confirmed custom not being easily overcome, and long prejudices having great weight even with those in health: Besides these considerations, such is the extensive influence of knowledge, that in chronic complaints, especially consumptions of the lungs, not only the patient but every person they are connected with become experienced physicians, and reason and dispute every inch of ground. Yet, when the med. has been taken a few mornings, the sensible relief it occasions removes every doubt, and induces them to persevere with great steadiness and punctuality.

In order to check in some measure the melting morning sweats, a draught of Infus.

Ros.



Ros. or some of the Elix. Vit. acid in any liquor at bed-time, cools the patient and prevents the discharge being so profuse; it may be united with an opiate when that is necessary <sup>3</sup>.

The Sp. Vit. duleis, in the quantity of two or three dr. to a pint of water, with some Syr. Pap. Rub. makes an elegant and grateful julep, a glassful of which may be taken frequently; it attemperates the heat, relieves the sinking spirits, and acts as a gentle tonic.

I consider it as essentially necessary to quiet the cough and procure sleep; for which purpose, such a quantity of the opiate must be taken, and occasionally repeated as will effectually answer the purpose. In this, and in every other disease where anodynes are required, that quantity whatever it may be, that produces the desired effect, is the proper dose. Happily

<sup>3</sup> “ In the later stages of this disease, when a general tendency to putrefaction takes place, it (the Elix. Vit.) cools and checks this tendency; it restrains the colliquative sweats, and if the lungs are not injured past repair, it is a very useful auxiliary.”—FOTHERGILL Med. Obs. & Inq. vol. 5. p. 353. An. 1776.

for the distressed patient, happily for the physician, rest and ease may always be procured by this special gift of heaven. Some inconvenience attends taking every med. of this class; they occasion costiveness in general, and some times sickness and giddiness. The first may be guarded against by proper laxatives, and the last may be relieved by drinking coffee early in the morning.

In common cases, I find it unnecessary to order any other medicine than the few I have mentioned. Many circumstances will arise where the Physician must be guided by his own judgment; here the subject can only be treated in general terms; to descend to every particular symptom and variation, would only serve to swell the work, and embarrass the young practitioner. In this and in many other diseases, I must say, (and I say it at my peril) a large quantity of medicine is not necessary. But among the luxuries of this dissipated age, medicine should be reckoned as one: however strange this may appear, it is a truth well known in almost every opulent family in this kingdom. On the smallest indisposition recourse  
must

must be had to medicine ; pain is so great an evil, that it must not be borne, even though a few hours would terminate the complaint. This occasions such a familiarity with draughts and boluses, that I am not surpris'd if we are sometimes accused of dealing them out too liberally. Though it is in some cases necessary to prescribe to the fears and apprehensions of timid patients, yet I cannot be persuaded to believe that the physician has ever any other motive, any other end in view, than the recovery of the patient, and that by the speediest means. As custom has rendered the attendance of a very useful and respectable body of men necessary, it is much to be regretted, that some other method of rewarding them was not adopted, rather than by the charge for their medicines. Perhaps by the visit, or by the year would be a better mode ; then the patient would be convinced he swallow'd no more than was merely and absolutely necessary ; and the medical profession would be exempt from reflexions, which they are as far from deserving, as any body of men whatever.

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The major part of those affected with Phthisis being females; they are greatly alarmed at the cessation of their monthly periods, which usually takes place when the disease is confirmed, and are very solicitous for their return. As I consider this circumstance as merely the effect of the increased discharge by the lungs and pores, and general debility of the system, it is not necessary to order any med. with an intention to its removal, as that will be obtained when the strength of the muscular fibre is restored.

In pulmonary complaints, preparations of Gum Myrrh combined with Káli, Ferrum Vitriolatum, &c. have lately been generally admitted into practice. As the first period of the disease is strictly inflammatory, so I have uniformly observed tonics of every description attended with no permanent benefit, but very frequently with an increase of the cough, pain and fever.

In the second and subsequent stage, when the hectic fever is abated, I have found the cautious use of such medicines produce considerable relief; they support the strength, assist digestion, and increase the healthy ac-  
tion



tion of the general system. When it is thought adviseable to attempt relief in this way, I usually direct an infusion of G. Myrrh in Aq. Calcis Simp. The particles of the calx uniting with the fixed air in the Gum, renders the infusion more perfect than any other menstruum I have tried. When filtered it will generally agree with the stomach, and may be connected with Ferrum Vit. Zincum Vit. &c. in such doses as may be adapted to the particular circumstances.

As I contend, that there is no such power in medicine, as is understood by the terms balsamic and pectoral, taken in their common acceptation, I consider the gum myrrh with its accessories, as acting by their tonic powers upon the stomach and first passages; and where there is nothing to contraindicate such remedies, they will be found more useful than many others of the same class.

In this state of the disease, preparations of the Peruvian bark, acidulated with Acid. Vit. is very generally directed. So far as my experience has extended, it is diametrically against the practice. In whatever manner it has been exhibited, the effects have been

an augmentation of fever, dryness of the skin in the intervals, without diminishing the morning sweats, and a uniform tendency to increase the action of the intestines. But if a case occurs in which no other tonic could be admitted, and it was determined to try the Peruvian bark, a cold infusion in old Rhennish wine will be found a light and elegant preparation. In a former chapter (VI) I have entered fully into the reasoning for rejecting this bark in every stage of Phthisis Pulmonalis. While the bowels are yet sound, the myrrh mixture of Griffiths, substituting Nitre for the Kali, may be given with advantage when tonics are adviseable.

Should the plan I have been submitting to the reader's consideration, be adopted before great ravages are made in the constitution, before the body is much wasted, and the strength reduced, I am hopeful the third and last period of the disease will seldom occur. But if from lateness of seeking relief, (as is too often the case) or from any other cause, the diarrhoea has made its appearance, I persist in recommending the Ipecac. with Zincum Vitriolatum as the strength will admit. If astringents are of any use (and  
in

in desperate cases we must attempt relief by every means, “at præstat certe anceps remedium experiri, quam nullum,” they should be selected from the mildest of the class. Small doses of torryfied Rhubarb, Infusion of Rhub. in Aqua calcis. Decoct. Lign. Camp. and as acidity is frequently present in the first passages, testaceous powders, or the Decoct. Alb. with or without astringent vegetables, make a very proper drink for common use. As multiplying remedies is always distressing to the patient, I have sometimes seen good effect from combining astringents with milk, and taken as diet, in the manner recommended by a very celebrated author<sup>4</sup>. The Cortex angustura comes

<sup>4</sup> “Cum in tali igitur loco res sit, illud hoc modo componendum est: flores rosarum rubrarum siccatarum, balaustia, cortex malorum granatorum, cinnamomum, singulorum drachma una, coquantur in lactis vaccini libra una. Cum ebullire incipit, frigida aqua affunditur parva portione, ut restinguatur et subsidet; finitur iterum ebullire, et eodem modo restinguitur; idque toties faciendum est, donec libra una absumpta, lactis simul et aquæ quod restat, libræ unius mensuram adæquet. Tum colandus est liquor, quem totum, commisto saccharo, partitis, uti commodum erit, haustibus, ægrotus ebibet quotidie. Hac via nutritur

comes fairly recommended in diseases of the bowels attended with debility; it deserves a cautious trial, both as an astringent and stomachic.

The Infusion or Tincture of Columbo root may be admitted under similar cautions. These, and others of the like nature united with opium will frequently check the alvine discharge, and allow time for the exertion of other powers in the constitution.

Did our influence over the operations of the body extend so far, as to regulate the discharge by the pores and intestines in such a manner, as only to evacuate the offending and superabundant matter, they would not be attended with any ill consequence. But the nîsus raised in the constitution, in order to discharge that offending matter, seems to give so strong a tendency to the fluids, and occasions such an irritation or disposition in the excretory organs, whether the pores, intestines, stomach, or kidneys, that the discharge con-

“ nutritur simul corpus, et venter comprimitur; nec  
“ quicquam obstat aliorum ciborum, vel medicamen-  
“ torum, usui hujusmodi diæta.”—MEAD. Monit. et  
Præcept. Med. p. 49. An. 1751.



tinues longer than is necessary to relieve the system; by which means the bodily strength is greatly reduced. When a med. is taken to excite vomiting in the old method, the nerves of the stomach become so irritable, that sometimes the operation may be continued to any extent, by only drinking warm water. Sweating and purging frequently continue long after the cause ceases to act. A ptyalism raised by a scruple of Æthiop's mineral has been known to continue, notwithstanding every means were used to stop it, for several weeks. Custom and habit have a wonderful power upon the bodily organs, as well as upon the mind; and an evacuation that has frequently taken place, will be more easily excited, and longer continued, than if the body had not been accustomed to it.

In this manner, I apprehend the profuse morning sweats are protracted beyond the period necessary to relieve the constitution from the accumulated fluid; and therefore checking them, will prevent that reduction of vital strength which always succeeds. But this must be attempted with caution and moderation; for whenever they have,

by

by any violent means, been entirely prevented, the fever becomes continual, more severe, and every symptom exasperated. Upon this principle I have selected the few mild astringents before-mentioned. To the attending physician these medicines are pointed out as what appears to me best adapted to this state of the disease; their doses and applications will be determined by their effects, and other circumstances; and as this work is not intended in any manner to preclude his advice, nor to enable the uninformed to prescribe to themselves or their friends, I have carefully avoided giving any formulæ.

In the period of convalescence, when the symptoms abate, when the cough diminishes, the patient gets natural rest, and the hectic fever and morning sweats are less, the same means must be persisted in till these symptoms are removed entirely. And when the fever is removed or greatly diminished, and not before, then tonics and bracers may be administered with freedom and safety: a languor and weakness often remaining after the other symptoms have disappeared. In this case, bitters, steel, the

Myrrh mixture of Griffith's, and the Chalybeate waters of Islington or Tunbridge will have a happy effect in restoring the tone of the first passages, and strengthening the digestive faculties. But as we have observed, all tonics in their action on the human body quicken the circulation and augment the heat, we must be exceedingly cautious in their application. There is a power in the constitution, when freed from the cause producing disease, that in a wonderful and inexplicable manner restores the machine to health and vigour, and that without any other assistance than the regulation of diet and exercise.

In treating on a disease, attended with so many alarming symptoms, and so frequently terminating fatally; in which authors of the first reputation, and practitioners of the greatest eminence, have ordered such a quantity and variety of medicine; it may appear, that the remedies I have recommended being so simple and few in number, I mean to reflect upon the efficacy and expediency of medicines in general. Far be such an idea from my mind! Medicine may be truly said to be  
of



of Divine institution <sup>s</sup>; and man, in no act upon earth so greatly resembles a superior Being, as in the instance of relieving pain and curing diseases, which would, without His aid, prove mortal. “ Hommes  
“ ad deos nulla re proprius accedunt, quam  
“ salutem hominibus dando.” The use of medicine was never decryed, but by those ignorant of its value; it is the abuse, not the use, that I wish to expose. And I hope I may be permitted to say, (without offending the fastidious and interested) the more we simplify our practice, the better we shall ascertain the effects of the remedy, and the greater will be our success in curing diseases.

Before I quit this part of my subject, it may not be foreign to my design to make some observations on consumptions

<sup>s</sup> The DIVINE PATTERN of all virtues employed His time and exemplified His Divinity, not in overturning kingdoms or establishing codes of laws for their governance; not in idle disputations and controversy about points of doctrine; but in restoring the blind to sight, the lame to walk, and the sick to health. The art of medicine is as superior to every other art or profession, as health is more valuable than any other worldly good. *Medicina omnium artium preclarissima est.*



that proceed from a diseased liver, having reason to believe they are more frequent, than is usually imagined; and although they appear easy to be distinguished from Phthisis Pulmonalis, yet they have been mistaken and supposed to arise from vomica.

Two cases of this kind have occurred to me lately. One of them being more distinctly marked than the other, I shall relate the particulars, and my reasons for supposing it hepatic.

A gentleman near sixty informed me, that ten years before, he had a violent fever and ague, in which the intermissions were so short, as not to afford time for taking a sufficient quantity of bark to prevent a return of the fit, and it was usually vomited up again. Sometime after recovering from this fever, in which he was attended by an eminent physician, he was suddenly seized with a discharge of matter and blood from his lungs in such a quantity as to be taken for an hæmoptoe; it was exceedingly foetid, brown, and the discharge continued long. He gradually recovered a tolerable degree of health; and from that time every two or three years, he had a similar

similar attack, but the matter less in quantity and not so offensive. His pulse was so regular and resembling health, that (he said) it was thought proper to increase its velocity by stimulating med. He had always a pain in the region of the liver, far back, and violent upon pressure; he could foretel the eruption of matter, from pains in the right shoulder, back of his neck, and by some other sensations which he could not easily describe. His breathing had never been affected, and after these attacks he could sing and talk as long, and as forcibly as in his best health. During the whole of his illness he never had morning sweats, and but very little cough, the matter coming up rather with a hawking, and strong expiration than coughing; and in the intervals he always spat a large quantity of phlegm and saliva, but no matter mixed with it. His habit was costive to a great degree, and his urine high coloured.

At the time he consulted me, I found him exceedingly emaciated, and reduced in his strength. His case having been supposed a vomica, the severest abstinence had

been enjoined. His pulse was eighty in a minute, soft and regular, little or no cough, breathing perfectly free and easy; forenefs and pains all over his limbs, and the mufcular parts of his body. Sometime before this, he had ceafed fputting matter more abruptly than ufual; he was therefore apprehenfive of a return, which I readily agreed in, from perceiving a copious fettlement in his urine, without any abatement in the fymptoms. In a few days his pulse rofe to ninety and an hundred, he became reftlefs, uneasy, and exceedingly fretful; he then began to fput matter, at firft white and laudable in fpherical mafles<sup>6</sup>, afterwards brownifh, like diluted chocolate, and he thought it tafted of garlie; but ftill with feareely any cough, no increafe of fever at night, or appearance of morning fwatts, his breath perfectly free, and his pulse returned to eighty. On breaking wind forcibly upwards, he feels fuch fevere pain in the affected part, under the falfe

<sup>6</sup> We are not to fuppofe becaufe pus appears in fpherical mafles, that it comes from cavities of that form; but that it is caufed by the vifcid and tenacious quality of its particles, clofely adhering to each other.



ribs, as to make him cry out, and suddenly jump up in bed. He brings the matter up with great ease, and never has any thing like a fit of coughing, as is usual when the lungs are diseased. When the matter was discharged freely, his uneasiness abated, and he got some rest.

On considering the particulars attending this case, which I had from himself in a conversation that lasted two hours, I did not hesitate to give it as my opinion, that his lungs were sound, his liver diseased and greatly wasted, that he would be subject to returns of spitting matter as long as he lived, and that a cure was not to be expected. As in this prognostick I differed in every particular from the physicians he had consulted during the progress of the disease, it is fit I should state the reasons on which my opinion was founded.

The fever in the beginning, which was treated as an irregular intermittent, I imagine was attended with an acute inflammation of the liver, terminating in an abscess on the superior part in contact with the diaphragm, to which it adhered. As the matter dissolved the substance of the liver,



liver, it gradually penetrated into the thorax, and as the lungs are in contact with the diaphragm, and probably adhering to it, the matter would pass through their substance into the bronchia <sup>7</sup>, and be discharged, as is mentioned in the quotation, p. 87. of this work. The matter in the first eruption was more in quantity, and more foetid, than if it had issued from a vomica; and its brown colour seemed to mark the materials it was composed of. No symptoms of diseased lungs preceded it. Had the quantity of matter spit up, which he said amounted to gallons, been furnished by the lungs, their substance would have been greatly wasted, there

7 “ When (the abscess) seated on the convex part of  
 “ the liver, if the adhesion be to the peritonæum lining  
 “ the common teguments, the pus may make its way  
 “ through these, and be discharged outwardly; or, if the  
 “ adhesion should have been to the diaphragm, the pus  
 “ may penetrate through this, and into the cavity of the  
 “ thorax, or of the lungs; and through the latter may  
 “ be discharged by coughing. When the abscess of the  
 “ liver is seated on its concave part, then, in consequence  
 “ of the adhesions, the pus may be discharged into the  
 “ stomach or the intestines; and into these last either  
 “ directly, or by the intervention of the biliary ducts.”  
 —CULLEN first lines, § 421. Ed. 4. An. 1784.

would

would have been cough and dyspnœa, as is usual in such cases. The absence of fever, and the costive habit, seem to point directly to the liver, for it is a criterion of that organ being diseased (in acute inflammation the pain arises chiefly from its peritonæal coat) that the pulse is scarcely accelerated, but frequently slower than when in health. The matter certainly passed through, or came from the lungs, and yet there had not been any symptoms of hectic fever. An intelligent apothecary who had attended him in a former attack, particularly noticed the calmness of his pulse, and the absence of hectic fever, that there was no increase of heat in the evening, or diminution in the morning, but uniform and continued. What becomes of the doctrine of absorption in this case?

I have introduced these particulars, as an argument against the absorption of pus, being the cause of the hectic fever; and not as treating particularly on the hepatic consumption; I shall therefore only observe, that in all obstructions of the liver, the *argentum vivum* is an effectual  
remedy

remedy in the early period ; that this disease is less rapid than Phthisis Pulmonalis, will bear a more nourishing diet, and that gentle emetics are equally necessary to evacuate the matter sooner, than it could be by the efforts of nature.

## CHAPTER IX.

*The necessity of air—phlogiston defined—air phlogisticated by respiration, combustion—how corrected—how to prepare dephlogisticated air, fixed air, phlogisticated air, and nitrous or test air—use of pure elemental air in Phthisis—situations best for the consumptive—riding on horseback—passions of the mind—amusements.*

AIR is so essentially necessary to every production of nature, that even vegetables when deprived of it, wither and perish. The many discoveries made in this part of natural philosophy of late years, has brought us more intimately acquainted with the component parts of the atmosphere than our predecessors were. And by the experiments that have been made, and are daily making, we not only know that the constituent parts of air may be changed and vitiated by passing through the lungs of animals, so as to be rendered unfit for the purposes of life; but also how air so contaminated is again purified and rendered fit for respiration. We are also enabled to ascertain the degree of the air's purity in any given place, whether country or town, comparatively with that of any other part, with nearly as much exact-



exactness and facility as we can determine the nature of any other fluid. These discoveries, like all philosophical inquiries properly directed, will tend to the good of mankind in general, and very considerably conduce to the improvement of the medical science<sup>1</sup>. As this work may possibly fall into

<sup>1</sup> Since Dr. Priestley first published his experiments upon the nature of atmospheric air, more than twenty years ago, many changes have taken place in the philosophy of that element; particularly concerning its action upon the blood in respiration. Some authors maintaining that the air receives mephitic vapour, or phlogiston, from the lungs; whilst others of equal respectability assert the contrary, that the blood receives phlogiston from the atmosphere during inspiration; in this they all agree, that air is rendered unfit for animal life by being often passed through the lungs, and by combustion. When such variety of opinion is brought forward by names of much credit, it is very difficult to adopt any one system with intire conviction. That animal heat consists of phlogiston or fire, will not be denied; the difficulty lies in accounting for its admission and expulsion, its increase and diminution. May not fire enter the system in what we eat and drink, especially in spirituous liquors. After refection the body is invigorated and the heat augmented. Air has been supposed to be generated in the blood vessels, and afterwards secreted into the intestines. It is highly probable that air is admitted by the absorbents on the surface of the body, and by  
some

into the hands of those not familiarly acquainted with this branch of philosophy, it may not be displeasing to them, to relate such experiments as are immediately connected with the subject.

We have observed, that air passing into the lungs in respiration, receives from the body the principle termed phlogiston<sup>a</sup>, and becomes

some process unknown to us, an equilibrium is maintained with the atmosphere. On taking violent exercise, in fevers attended with inflammation, and in crowded assemblies, the heat of the body is greatly increased, and the frequency of breathing proportionably accelerated; in such situations it would seem more natural that heat was expelled from the body during respiration, than that more heat or phlogiston was received from the atmosphere. When heat superabounds in the system, the laborious panting is only relieved by inspiring cool, fresh air: this is so evident as to need no illustration.

Admitting that phlogiston or fire is received into the system by our food, drink, and from the external air, separately or combined; and that by some process of nature it is mixed with the circulating fluids: may it not be expelled, after having fulfilled its appointed purpose, by uniting with the pure part of the air during inspiration and forming fixed air, or aerial acid, as we explained in a former chapter? This is the old doctrine, and to me it appears as reasonable, as any of the new theories.

<sup>a</sup> “ By phlogiston is generally understood that principle in combustible bodies, on which their inflammability

becomes charged with it more than before. When air is saturated with phlogiston by the breathing of animals, by combustion, or by any other means, a lighted candle immersed in it, is immediately extinguished; an animal confined in such air expires in a few minutes<sup>3</sup>. This fact being established, it might be supposed, that considering the multitude of animals on the earth, the air would soon be rendered unfit for their use; but the watchful eye of Providence has ordained a remedy as general as the disease. Phlogiston is the food of plants; they not only thrive in such air, but have the power of removing the offending principle, and leaving the air pure and salutary. Vegetables at the same time they correct phlogisticated air, emit from their leaves pure imperial or

“ bility principally depends; that principle to which  
 “ metals owe their malleability and splendor; that which  
 “ combined with vitriolic acid forms sulphur; that which  
 “ diminishes respirable air. Now inflammable air is that  
 “ very principle which alone is truly inflammable, as  
 “ Mr. Volta has elegantly shewn. Combustible sub-  
 “ stances are either animal or vegetable, and they are in-  
 “ flammable only as they yield inflammable air.”—KIR-  
 WAN Phil. Transf. vol. 72. part 1. for 1782.

<sup>3</sup> See Dr. PRIESTLEY's numerous experiments on this subject.

dephlo-



dephlogisticated air, which probably is the means of performing this process. Green vegetables put into a glass vessel filled with water, and inverted in the same fluid, throw out from their leaves pure dephlogisticated air, in summer very plentifully, and by this means it may always be obtained. But it is a singular circumstance, that light is absolutely necessary for the production of this air, for in the dark, vegetables emit a noxious air. Plants deprived of light soon lose their colour, odour, and other sensible qualities <sup>4</sup>.

Air saturated with phlogiston and moisture from the lungs, in which a candle was extinguished instantly as if it had been put into water, was in one hour, by having a

<sup>4</sup> May not this be one reason why the human body is more refreshed by sleep in the night, than in the day? And may it not therefore be an inducement to restrain the modern rage for late hours, could we convince the votaries of fashion, of pleasure, and dissipation, that it destroys their beauty, shortens their lives, and brings on premature old age? For they not only breathe air highly phlogisticated by the respiration in crowded assemblies, but by lying in bed they lose the cool refreshing morning air, destined to exhilarate and brace the body after sleep.



spring of growing mint confined in it, rendered so pure, that a candle burned at the bottom of the vessel as well as in the common atmosphere. This experiment points out the use of vegetation, even in towns, in a manner not known before the present age.

It has been supposed, that the common respirable air consisted of three parts, phlogisticated or inflammable air, fixed air, and pure elemental or dephlogisticated air. But an ingenious and learned chymist has demonstrated, that fixed air is formed by the union of phlogiston, condensed to a certain degree, and dephlogisticated air, in the proportion of 14.661 gr. of the former to 85.339 gr. of the latter; “and that phlogiston when exceedingly rarified, as it is  
“ in inflammable air from metals, forms some  
“ other as yet unknown compound <sup>5</sup>.”

The

<sup>5</sup> “Hence we may see, why the whole of any quantity of common air can never be converted into fixed air; for no part of it will unite with phlogiston, but  
“ the dephlogisticated part (which never exceeds one-third part of the whole.) This Mr. Scheele has decisively proved by exposing liver of sulphur to a mixture of phlogisticated and dephlogisticated air; the  
“ mixture

The different kinds of air we have had occasion to mention so frequently, and also another called nitrous air, used as a test

“ mixture was diminished in the same proportion as it contained dephlogisticated air, and no more.”----

SCHEELE, § 43.

“ Phlogisticated air, therefore, is not the usual product of common phlogistic processes; but the phlogisticated residuum that is found after such processes must have pre-existed, as that evidently does which is found after the mixture of nitrous and very pure dephlogisticated air, for almost the whole of this last is turned into air which is absorbed by water, and precipitates lime, as we have already seen, so that no part of it is converted into phlogisticated air, this being immiscible with water. Now common air is affected by nitrous air just in the same manner, and differs only in degree; therefore the phlogisticated air, which is found after its phlogistication in the usual processes, was not produced by those operations, but pre-existed.”

“ Phlogisticated air consists of fixed air super-saturated with phlogiston, as sulphur does of volatile vitriolic acid super-saturated with phlogiston; and as sulphur is not generally formed when the vitriolic acid unites to phlogiston, but only volatile vitriolic acid, so neither is phlogisticated air each time that pure air unites to phlogiston, but rather fixed air; I say *super-saturated*, because it contains such a quantity of phlogiston as to be insoluble in water.”—KIRWAN Phil. Transf. vol. 72. part I. for 1782.

of the qualities of the others, may be thus prepared.

Dephlogisticated air is procured from deflagrating Nitre in great abundance; one pound furnishing 12,000 cubic inches of this elastic fluid, a quantity more than sufficient for a person to breathe 48 hours. It may also be got, by adding the Vitriolic acid to the calx of any metal, and a moderate heat applied to the vessel.

Fixed air is procured from any fermenting fluid; chalk and oil of vitriol is commonly used. Mixed with lime water, it precipitates the lime, leaving the water pure and tasteless. Not only water, but every substance eagerly absorbs it. The Abbe Fontanna filled a close room with fixed air, and in a short time he could discover no vestige of it. Being specifically heavier than the atmosphere it does not rise to any height, but lies upon the ground in places where it is formed, as in the Grotto del Cane near Naples.

Inflammable air is procured from the vitriolic acid and any metal <sup>6</sup>.

Nitrous

<sup>6</sup> Dr. PRIESTLEY and Mr. LAVOISIERE have discovered a much cheaper process of obtaining inflammable air,

Nitrous or test air, is made from smoaking Spirit of Nitre and filings of copper. When this air is mixed with common air, a brown effervescence ensues, and the latter diminishes in proportion to its purity, or to the quantity of dephlogisticated air contained in it. Whenever, therefore, it may be required to determine the purity of air, nothing more is necessary than to fill a bottle with water, empty it in the air proposed to be examined, and after a few minutes cork it up, tie it carefully over with bladder, and keep it reversed in water; two measures of this air, and one measure of Nitrous air being mixed, will, by the diminution, shew its degree of purity, compared with any other air as a standard. But the experiment must be made as soon as possible; for it has been found, that air kept in bottles, however secured, in a short time loses its predominant quality, and

air, by the means of the steam of water passing through iron shavings contained in a tube heated over a furnace, the air passing through the worm of a worm tub. By this means, from one ounce of iron shavings, 600 ounce measures of air is procured, being 200 more than from the same quantity and vitriolic acid.



becomes similar to the common atmosphere where it has been kept.

Should the method recommended by an ingenious author <sup>7</sup>, of giving dephlogisticated air medicinally become familiar in common practice, I am strongly disposed to believe it would prove a valuable addition to the treatment of pulmonary complaints. But as we find it very powerfully increases deflagration, and the consumption of burning matter, it is possible that breathing it entirely, even for a few hours at a time, might be too great a change upon the system, discharging the phlogiston from the habit faster than is consistent with life, and perhaps occasion a too rapid waste of the living principle. To avoid any inconvenience of this kind, and to proceed cautiously in an unbeaten path, might it not be administered out of bladders, or glass jars with stop cocks, like any other medicine, as often as the physician should think proper to direct? A machine like the Indian hooker may be contrived by which the patient might inhale it when in bed, in the

<sup>7</sup> Dr. A. FOTHERGILL Hints on Animation.

manner of smoaking. Given in this way it would rather mend the air the patient breathed, than change it altogether; and as all sudden alterations are dangerous, it will be safest to begin, at least, by slow degrees. As this philosophy, notwithstanding the rapid progress that has been made, is still in its infancy, time and repeated experience can only determine the medicinal virtues of artificial airs.

Medicated airs upon a principle directly the reverse of the above, have lately been given in diseases of the lungs, and strongly recommended by some physicians. As it has not come within the sphere of my observation to see the effects of this practice, I cannot speak decidedly upon the subject; but the result of some trials has been published by an author, whose circumspection and veracity cannot be questioned, where the success fell far short of his and the public expectation <sup>8</sup>.

We

<sup>8</sup> “ From these cases (eight in number) as far as they  
“ extend, we cannot draw any conclusion highly in  
“ favour of the pneumatic medicine. No benefit was

We are taught that the autumn is the most dangerous season to the consumptive, “Au-

“ obtained from a long course of it, in a case of tuber-  
 “ cular Phthisis, where it was ascertained by dissection,  
 “ that suppuration had not taken place. In a very re-  
 “ cent case of Phthisis, the relief afforded by the Hy-  
 “ drogene was very trifling, not equal to what I have  
 “ produced in similar cases, by common methods of prac-  
 “ tice. But what has most disappointed me, is the want  
 “ of efficacy in this medicine, in a curable disease, a  
 “ common case of peripneumony, in which the patient  
 “ recovered by the usual remedies. In one case the pa-  
 “ tient was greatly relieved from his complaints, by  
 “ ordinary medicines, after a long ineffectual course of  
 “ Hydrocarbonate. I have no reason to suspect want  
 “ of accuracy in administering the gasses here. They  
 “ were prepared exactly according to Mr. Watts’s direc-  
 “ tion; in the beginning of most of the observations,  
 “ they were exhibited in my presence, and I have care-  
 “ fully noted every accidental omission. That they  
 “ were given in doses sufficiently strong is evident from  
 “ the intoxication or delirium which was produced in  
 “ most of these instances. On the other hand,” the au-  
 “ thor adds, “ it must be confessed, that the Hydrogene  
 “ gave much relief to one patient, in the advanced state  
 “ of Phthisis, and that some benefit resulted from it,  
 “ in a chronic asthma. As far as my observation goes,  
 “ therefore, I have only found the pneumatic medicine  
 “ palliate, and even that effect has proved but transi-  
 “ tory.”---Med. Hist. & Reflect. Dr. FERRIAR, 8vo.  
 Ann. 1795, p. 240.

“ tumnus

“*tumnus Tabidis malus*”<sup>9</sup> is quoted by every author. This might have been the case in Greece and Latium, but certainly in this northern climate the spring more frequently proves fatal than any other season. In the autumn, the weather is for the most part mild and moderate, and continues so till after Christmas; then the frost sets in, and remains with intermissions till February or March; about which time the north easterly winds are as regular as the trade winds in southern latitudes. These piercing winds are the most prejudicial to complaints in the breast, often blasting the fair prospect of a recovery, and proving fatal in a short time; they should be avoided with anxious solicitude. In this country, even the month of May is very different from that painted by the Poets, when the Loves and the Graces sported in the shade, adorned with the flowers of the spring. The patient before he ventures abroad, should observe the

<sup>9</sup> HIPPOCR. App. sect. 3.

“*Erat autem omnibus præscriptis gravissimum quidem ver, et multos occidit. Æstas autem facilima, et paucissimi perierunt. Autumno verò et sub pleiada rursus multi moriebantur quartanarii.*”---Ibid. de Morbis, Popul. lib. 3. sect. 3.



wind, and if it is in any point between the N. and E. by no means to expose himself to it out of a carriage, and unless the sun is full out, he should remain in the house. Indeed when the circumstances will admit, the safest course will be to visit a warmer climate during the winter and spring.

Whether the theory I have endeavoured to establish, in explaining the nature of the pulmonary hectic fever, shall stand or fall by the test of experience and observation; there is no doubt, that in all complaints of the lungs, pure air is essentially necessary to the cure, and if possible it will appear more so upon the principles we have been explaining.

It is to be lamented that in phthisis, this remedy like every other, is seldom sought till it can be no longer of any real benefit. How often do we observe an unfortunate patient, reduced to the very brink of existence by this cruel malady, hurried out of town to Bristol, or some place at a distance from the capital, being incapable of supporting the fatigue of the journey, seeks rest and quiet at some inn, and there expires! Whereas had he removed early in  
the

the disease, before his strength had been destroyed, and his lungs wasted, pure country air, aided by proper auxiliaries, might have restored him to the comforts of society. Whenever therefore it is in the patient's power, let me intreat him early in the complaint to fly the populous city, and breathe the air purified by vegetation; and not loiter away his time in pursuing ideal plans of cure, for whatever is beneficial in the town, will be doubly so in the country <sup>10</sup>.

The sentiments of a late eminent physician are so just and apposite, that I shall gratify the reader by substituting his words for my own. " In the neighbourhood of  
" most great towns in England, as well as

- <sup>10</sup> " Fly the rank city, shun its turbid air ;  
" Breathe not the chaos of eternal smoke  
" And volatile corruption, from the dead,  
" The dying, sickning, and the living world  
" Exhaled, to sully heaven's transparent dome  
" With dim mortality. It is not air  
" That from a thousand lungs reeks back to thine,  
" Sated with exhalations rank and fell—  
" It is not air, but floats a nauseous mass  
" Of all obscene, corrupt, offensive things—  
" While yet you breathe, away."——

ARMSTRONG'S Art of preserving Health. An. 1744.

" Lon-

“ London, there are places that have ac-  
“ quired a reputation among the inhabitants  
“ for the peculiar healthiness of their situa-  
“ tion, I will suppose those situations are  
“ well chosen; that the soil is dry; no  
“ stagnant waters in the neighbourhood;  
“ properly ventilated, yet not exposed  
“ to the keen north-east winds; where it  
“ will be easy to find sheltered walks, rides,  
“ and every invitation to be abroad in fit  
“ weather, without hazard from wet and  
“ cold. Such, I believe, from the few  
“ places I know of this kind, are those se-  
“ lected for the retreat of consumptive pa-  
“ tients, in the vicinage of large towns and  
“ cities. And here it may not be improper  
“ to take a general view of such as are re-  
“ commended for the like purpose in the  
“ neighbourhood of London.

“ The town is surrounded almost by a  
“ ridge of eminences, inclosing, besides the  
“ city, a low plain to the westward of con-  
“ siderable extent; on the north, High-  
“ gate, Hampstead, and Kensington Gravel-  
“ pits; on the south-east, Blackheath, Clap-  
“ ham, and Putney. The summits of these  
“ may be called, comparatively, high  
“ ground,

“ ground; and are very much exposed to  
“ the sharp north-east and easterly winds.

“ To direct our patients to any of these  
“ places early in the spring, whilst those  
“ winds are for the most part stationary as  
“ the trade-winds, seems to be exposing  
“ them too much to an air that is very un-  
“ friendly to such complaints.

“ The vales, especially to the south-east  
“ and west of London, as Camberwell,  
“ Peckham, the lower parts of Clapham,  
“ the dryer parts of Lambeth and Batter-  
“ sea, Fulham, Chelsea, Brompton, and  
“ Kensington, and other sheltered dry places  
“ about the town, would in the spring un-  
“ doubtedly be the most proper.

“ As the more temperate season ad-  
“ vances, higher situations may be allow-  
“ ed; and it would seem as improper, to  
“ send a consumptive patient in summer to  
“ the low marshy grounds on the banks  
“ of the Thames; amongst the gardeners  
“ grounds at Battersea, or at Fulham,  
“ abounding with the most putrid exhalations  
“ of manure and corrupting vegetables,  
“ as it would be to order them in  
“ winter to the top of Highgate or Hamp-  
“ stead-



“stead-hill, or the bleaker air of Black-  
“heath. Islington, the general refuge of  
“the city would be less exceptionable,  
“was it not quite open to the keenest  
“north-east winds in the spring; and in the  
“summer to the smog of the city, driven  
“upon it by the southerly winds.”

Consumptive patients are very generally ordered to Bristol, to drink the waters of that place, celebrated for their efficacy in such complaints. If the journey is undertaken early, before the strength is exhausted, and the lungs irremediably injured; the exercise of travelling, and drinking a pure light water passing through a chalky soil, will probably be of use. But how far these waters may contain a restorative quality, superior to any other of equal purity, and specific gravity, I cannot determine. Pure, soft, light water, when drank in large quantity, I conceive to be highly efficacious in the cure of chronic diseases, attended with inflammation, especially when assisted by abstinence, clear air, and such exercise as the strength will bear without fatigue.

“ FOTHERGILL *Med. Obs. & Inq.* vol. 5. p. 361.  
An. 1776.

All these may be found at Bristol wells. The water is soft and light, with some degree of warmth, and therefore well adapted to Phthi-fical complaints. The air is pure, the situa-tion elevated, and the generality of those who seek relief at a distance, are enabled to take such exercise as may be thought proper upon the Downs, or in cold weather to lodge on the south-side of the hill. On the whole, I do not know a better station, provided the patient goes early in the disease, in the very beginning, and without that no remedy can be effectual.

Of all the various means that have been attempted to stop the progress of this ravag-ing disease, none has been so often recom-mended, or so highly celebrated, as riding on horseback. The learned Sydenham, who deservedly lies upon the same shelf with the father of physick, had so high an opinion of this exercise, that he asserts, neither mer-cury in the lues venerea, nor the cortex pe-ruvianus in intermittent fevers, are more certain remedies than riding on horseback is in Phthisis Pulmonalis; provided the journies are sufficiently long, and the  
traveller

traveller takes care to have his linen well aired.<sup>12</sup>.

12 “ Neque magis hypochondriacis prodest hoc exercitii genus, quàm Tabidis Phthificisque, quorum nonnulli mihi sanguine juncti multum terrarum equo vectore peragrantes, ex meo consilio, sanitati sunt restituti; cum certò sciam me vel Medicamentis quantivis pretii, aut alia methodo, quæcunque demum ea fuerit, nihil magis iisdem proficere potuisse, quàm si multis verbis hortatus fueram ut rectè valerent. Neque in levioribus tantum malis, crebrâ tussi et macie stipatis, id remedium obtinuit, sed et in Tabe tantum non deploratâ, ubi nocturnis sudoribus jam etiam accesserat Diarrhœa ista superiùs dicta, quæ Phthisi confectis mortis prænuntia solet esse, atque adeò ut plurimum ultima rerum linea. Verbo dicam. Quantumcunque exitialis *Phthisis* et sit et audiat, utpote quâ intereunt duo ferè Trientes eorum quos morbi Chronici jugulant, hoc tamen sanctè assero, quòd neque *Mercurius* in *Lue Venereâ* neque *cortex peruvianus* in *Intermittentibus* efficaciores extent, quàm in *Phthisi* curandâ *Exercitium* jam laudatum; modò æger curet, ut lintamina lecti probè fuerint arefacta, atque etiam ut satis longa itinera emetiatur. Attamen hoc notandum quòd vitæ ἀμὴν prætergressis multo diutiùs in hoc exercitio persistendum, quàm infra istam ætatem positis. Atque hoc multiplici experienciâ, quæ vix me fefellit unquam, didici: Et licèt equo vehi Phthificis præcipuè conferat, tamen et itinera curru facta mirandos sanè effectus quandoque ediderunt.”—  
SYDENHAM Epist. ad Dr. Cole. An. 1705. Ed. 3.

When

When an author of such extensive practice, learning, candour and celebrity; makes an unqualified assertion, which unfortunately for the diseased, is universally known to be void of foundation; it surely ought to humble every writer in his own eyes, and teach him to speak with diffidence and modesty of the remedies he recommends.

It is well known to every practitioner who has been conversant with complaints of this kind, that the exercise of riding on horseback, unassisted by other remedies, never cured the Phthisis Pulmonalis; on the contrary, the indiscriminate use of this exercise has, I am convinced, very frequently aggravated every symptom of the disease<sup>13</sup>.

In coughs without inflammation before tubercles are formed, or at least, where they are not far advanced, it certainly will be of use, as no exercise so effectually strengthens the solids, and removes obstructions in the hypochondriac viscera. But when the tubercles are increased in number and

<sup>13</sup> “ Hic vero Phthisicus alter est de duobus, quibus  
‘ laudata adeo ab Sydenhamio equitatio mortem acce-  
‘ leravit.”—MORGAGNI de sed. et caus. Morb. lib.  
2: Ep. 22. Art. 13.



magnitude, or when vomicae are formed; where the parenchymatous substance of the lungs is much inflamed, and where rest and quiet are so essentially necessary; agitation on horseback must be extremely distressing to the patient, and greatly increase the inflammation<sup>14</sup>. Add to these considerations, that the exercise is usually taken at the most improper season; in the middle of the day or afternoon, when the hectic fever has come on, and consequently the tender lungs are more unfit for motion. Whereas, when the exercise is advisable, it should be taken in the morning during the remission of the fever, in a slow, gentle manner, for even then all hurry or violent motion by accelerating the circulation and quickening respiration will do harm, increase the symptoms, and probably produce hemoptysis. In fine weather, the more early the patient is out the better, as it both avoids the heat of the sun, always fatiguing to the sick, and prevents the continuance of the morning

<sup>14</sup> “Errant sæpè medici, dum exercitationes ægris et valedudinariis imponant, præsertim Phthificis, quibus equitatio indiscriminatim imperatur.”—C. WINTRINGHAM de Morb. Quibusd. Com. § 73. An. 1782.

fwatts by early rising; and we have presumed that the air is actually more refreshing, and invigorating in the morning, than when the sun has advanced in his journey; there being a greater quantity of dephlogisticated air emitted from plants of every kind, and a less proportion of phlogiston in the atmosphere.

Were riding on horseback and country air, productive of the good effects we are taught to believe, the disease would scarcely ever prove mortal but in great cities, where those luxuries are not to be procured, save by a chosen few the favourites of fortune. So far from this being really the case, it is frequent and fatal in every county in England, where every person enjoys the one, and very generally the other in some degree. But even allowing riding long journies to be as effectual as Sydenham has asserted, how few are there among the consumptive, whose circumstances will permit them to make the experiment! The greater number being among the lower and middling class of the people, who cannot afford the expence of breathing country air, so peculiarly requisite in every period of the disease.

In the convalescent state when the patient is recovering, when the fever abates, and the cough and spitting is diminished, easy motion on horseback in the morning and forenoon, as it agitates the whole system, will greatly assist in the recovery of perfect health; but where any fever is present in the afternoon and evening, riding is by no means to be attempted<sup>15</sup>. Before this period, if circumstances will permit, they may go out in a carriage in the forenoon; but even that must be avoided in the evening when there is any fever. This exercise may be continued as long as they can bear it without fatigue. When a carriage cannot be procured, let the sick move about a garden, or in the fields when the weather is fair; or wherever there is vegetation and shelter from the sun. Their motion should be gentle, even, and slow, avoiding every thing that may augment the quickness of breathing, particularly going up and down stairs or any acclivity.

The consumptive should go to bed early, lie upon a hair mattress with slight covering,

<sup>15</sup> See a paper by Dr. Dickson, *Med. Obs. & Inq.* vol. 4. p. 213. An. 1772.

and



and get up soon in the morning, even if they are obliged through weakness to lie down in the course of the day. For nothing weakens and relaxes the body so much, even in health, as lying several hours in the morning, dosing between sleeping and waking. But in the disease under our consideration, it is peculiarly prejudicial, as it promotes and prolongs the colliquative sweats, which by early rising are checked, and the subsequent langour in some measure prevented. Independant of these considerations, the heat of the bed has been, in the opinion of men eminent in the profession<sup>16</sup>, thought to increase pleurifies and inflammations in the breast: how improper must it then be where a continual inflammation subsists? This is an additional argument in favour of early rising, and I wish any thing I could say would induce the luxurious, the indolent, the effeminate, and especially the consumptive to listen to so salutary an admonition.

We are often surpris'd to perceive the minds of Pthifical patients wonderfully sup-

<sup>16</sup> SYDENHAM. MUSGRAVE, Gulst. Lect.—HUXHAM. PRINGLE.



ported by hope, through every stage of the disease, even to the last hour of their lives. Firmly persuaded they shall recover their health, and live to execute the numerous plans they are ingenious and industrious in forming. This may proceed from the absence of severe pain, the lungs not being endowed with exquisite sensibility, and the daily remissions of the fever is a ground to hope it will in time entirely disappear. From whatever cause this happy disposition originates, it should by every possible means be encouraged, and every thing that is liable to disturb the quiet and serenity of their minds assiduously guarded against<sup>17</sup>. Such amusements as their situations permit them to share in, and to which they are inclined, will not only alleviate their sufferings, but, from the intimate sympathy subsisting between the body and mind, contribute not a little to remove the complaint. Above all, music produces this effect in an eminent degree; it gently soothes the imagination, harmonises the passions, and attunes every jarring element in our frame to quiet and

<sup>17</sup> MAYNWARINGE on Consump. p. 65. An. 1668.

rest. This was the opinion of the respectable author of that elegant poem the Art of Preserving Health<sup>18</sup>, where we are at a loss which to admire most, the justness of the medical precepts, or the beauty and harmony of the numbers in which they are delivered.

<sup>18</sup> “ There is a charm, a power, that sways the breast,

“ Bids every passion revel or be still ;

“ Inspires with rage, or all our cares dissolves ;

“ Can sooth distraction, and almost despair.

“ That power is music:——

“ Music exalts each joy, allays each grief,

“ Expels diseases, softens every pain,

“ Subdues the rage of poison, and the plague ;

“ And hence the wife of ancient days adored

“ One power of med’cine, melody, and song.”

ARMSTRONG’S Art of preserving Health. An. 1744.

## CHAPTER X.

*Change of climate—sea voyages—efficacy in Phthisis—  
steams and vapours—singular instance of the effects  
of sea sickness—purity and healthfulness of sea air—  
proper voyages—Madeira, Mediterranean.*

MANKIND being very early sensible of the great influence the atmosphere had in curing diseases, it became a natural expedient to attempt the recovery of health by moving from one place to another, as whim, fashion, or judgment directed. When this idea was once familiar to the mind, sea voyages would be used, if only as a mode of conveyance. And accordingly we find them recommended by ancient and modern authors. Their effects in Phthisis Pulmonalis is mentioned among the former, by Celsus †

† “ Quod si vero Phthisis est; opus est, si vires pati-  
“ untur longa navigatione. Si id imbecillitas non finit  
“ mare tamen, sed non longe, vectari commodissimum  
“ est.”—CELSUS, lib. 3. cap. 22.

“ Utilis etiam in omni tussi est peregrinatio, naviga-  
“ tio longa, loca maritima.”—Ibid. lib. 4. cap. 4. sect. 4.

“ Si vero pituita Stomachus impletur utilis navigatio.”  
—Ibid. lib. 4. cap. 5.

and

and Pliny<sup>2</sup>. Among the moderns, by Boerhaave<sup>3</sup>, Mead<sup>4</sup>, Whytt<sup>5</sup>, Cullen<sup>6</sup>, Fothergill<sup>7</sup>, Gilchrist, and others.

In

<sup>2</sup> “Quin et vomitiones ipsæ, in stabili volutatione commotæ plurimis morbis capitis, pectoris, oculorum, medenter, omnibusque propter quos elleborum bibitur.”—PLIN. Hist. lib. 31. cap. 6.

“His accedunt exercitationes, navigationes, locorum mutationes, gestationesque. Veteres maxime laudarunt longas navigationes, et privatim (ut Celsus auctor est) ex Italia in Alexandriam Ægypti; gestationes vero et in navi per mare (quod aër falsuginosus, auctore Aretæo, plurimum valeat ad ulcera siccanda) et in lectulo pensili, et in lectica aut in cathedra oblonga (Aureliano auctore) utilissimæ fuerunt ab antiquis gestationes in Phthificis deprehensæ.”—PROSPER. ALPIN. Med. Method. lib. 8. p. 508. Lug. 1719. Ed. 2.

<sup>3</sup> Aphor—sect. 857, 858.

<sup>4</sup> Monita et Præcepta Med. cap. 4. De febris lentis An. 1751.

<sup>5</sup> “A young gentleman, lately my patient, who had a very delicate nervous system; and whose stomach and intestines were so uncommonly sensible, that a single stool, procured even by Elix. Sacrum made him faintish; and vomiting or purging was almost sure to bring on fainting fits, with slight convulsions. This person, I say, had his constitution so changed while he was at sea, that although during a voyage of four or five weeks, *he vomited much every day*, and purged frequently; yet he had neither any faintings, nor was sensible of any particular weakness in his stomach and  
“bowels.”



In cases where the change of climate has proved remarkably successful, I am disposed to attribute the benefit received, in a great measure to the effects of sea-sickness, rather than to the air of the place

“ *bowels*. After this voyage, he had no return of these  
“ fits, to which for some time before he had been liable,  
“ till at the distance of eight months, when he applied  
“ a blister to the under part of his breast; the pain of  
“ which, when taken off, occasioned fainting, with  
“ slight convulsions.”—WHYTT Works, 4to. Ed. p.  
643. An. 1768.

6 “ And it is therefore that sailing, of all other modes  
“ of gestation, is the most effectual in pneumonic cases,  
“ as being both the smoothest and most constant.”——  
CULLEN first lines, § 914. Ed. 4. An. 1784.

7 “ Even sea sickness is often beneficial to the con-  
“ sumptive, as well as the sea air. Impaired digestion,  
“ and not seldom a redundancy of bile, attends these  
“ cases; *and perhaps repeated mild emetics*, sufficient to  
“ cleanse the first passages, would often be of use.”——  
FOTHERGILL Med. Obs. & Inq. vol. 5. p. 369. An.  
1776.

“ The benefit the constitution receives from sea sick-  
“ ness, is, that the tone of the solids in every part, is  
“ wound up to a greater degree of tensility, springiness,  
“ and vigour; and the obstructions of the stomach and  
“ several viscera are entirely resolved, which, if timely  
“ undertaken, recovers any decay before it can gain a  
“ firm settlement in the habit.”—ROBINSON on Con-  
sump. p. 46. An. 1727.

where

where they resided. If I can make this evident to the reader's satisfaction, I conceive it will be the greatest confirmation of the safety and efficacy of the method I have been inculcating, that can be produced; I shall therefore, with his permission, consider the matter somewhat in detail.

Authors who have written upon the subject of sea voyages, have supposed their good effects were produced by the patient's constantly inhaling balsamic and resinous particles, with which the air is impregnated from the ship and her equipage; (that is, to the smell of pitch, tar, and turpentine) and also by the exercise of the ship's motion. All this is merely imaginary. Whoever has been at sea must know, that there is not near so much exercise as in a carriage, and when the motion becomes familiar, which it does in a short time, there is scarce any at all. As to the atmosphere being loaded with certain particles arising from the vessel; if we consider the free circulation of air, the wind perpetually blowing whatever may arise, away from the vessel, and the largeness and cleanness of  
the

the apartments; the matter that flies off from the ship or her rigging must be so very thinly dispersed, that no possible effects can be produced from their application to the diseased lungs.

In consequence of this mode of reasoning, it has been attempted to produce the same effects on shore. Consumptive persons have been placed in small rooms, in which certain gums and resins, supposed to be endowed with the property of healing ulcers, were burnt upon hot iron. The atmosphere being thus loaded with the smoke and vapour, the patient breathed in it for a certain time every day, and it is said<sup>3</sup> with advantage. This is reasoning from analogy, and drawing conclusions from false premises. Gums and balsams applied to external ulcers are said to cure them, and therefore similar particles applied to ulcers in the lungs will cure them also. But gums and balsams do not cure external ulcers; the best surgeons expecting no more from external dressings, than merely defending the part from the air and bandages; for

<sup>3</sup> MUDGE on the Catarrh, p. 133.

that

that purpose, the Ceratum Album is better than the Balsam of Mecca; and there is no degree of similarity between the two diseases, the cause, the continuance, and the process of cure being totally and diametrically different.

Various other steams from mineral and vegetable substances have been used upon the same principle<sup>9</sup>; but so far as I can judge from experience, and I have seen them tried for a great length of time, they produce no relief; on the contrary, they for the most part increase the cough by the

<sup>9</sup> BENNET Theat. Tabid. uses fumigation with vegetables, turpentine, orpiment, &c. p. 167.

WILLIS, sect. I. cap. II. uses fumes of sulphur and arsenic.

Ob eandem quoque rationem novi fumum ex *balsamo tolutano*, more *tabaci*, per tubum commodum in pulmones inspiratum usus fuisse eximii, præcipue in sanguinis sputo.—MEAD. Monita et Præcept. Med. p. 53. An. 1751.

WINTRINGHAM, § 306. In hæmoptoe from obstructed menses, recommends astringent vapour to the lungs. Ann. 1782,

Fumes with G. Olib. & Flor. Sulph. smoaked like tobacco.—SLOAN MSS. Brit. Mus. See the prescription in page 147 of this work.

heated



heated air stimulating the inflamed lungs. One constant effect of these applications is quickening the respiration, which ought at all times to be carefully guarded against.

When people first go to sea they are, with few exceptions, sea sick, which continues many days, in some the whole voyage; but after a short time only in the morning when they first stand in an erect posture; during its utmost violence, after the first day, they are rarely sick when lying horizontally.

To this sickness I attribute the success of sea voyages in Phthisis. For although it is of all sickness the most violent and distressing, often straining the patient till pure bile is pumped into the stomach and discharged, thereby occasioning obstinate costiveness, yet their appetite remains good, their spirits light and chearful, they get flesh and are evidently in perfect health. I have seen many people, some of them I have accompanied in voyages of considerable length, who were constantly sick when it blew hard, even when the ship was at anchor; and notwithstanding they were subject to this for years, yet their health  
con-

continued unimpaired. This I consider as a positive proof that vomiting may be repeated frequently, and persisted in to any length of time, without injury to the stomach or general health; for sea sickness is more violent than the operation of any emetic medicine I have ever seen administered.

The general objection to the frequent use of medicines that excite vomiting is, that they weaken the stomach, destroy its tone, injure its coats, and weaken the appetite. Surely if it can be continued violently for years without producing any of those effects, is it reasonable to suppose, that being produced in the gentle manner we have recommended, will be attended with danger? It being of importance to obviate this idea, I shall produce the authority of others in defence of the practice, that it may not rest upon my single assertion.

In the case quoted from Whytt, before the patient went to sea, vomiting or purging in a gentle manner was almost sure to bring on fainting fits. But during a voyage of four or five weeks, *he vomited much every day* and purged frequently, and yet he  
had

had neither faintings nor weakness in his stomach and bowels. After this voyage he remained well for eight weeks.

In the cases published by Gilchrist (who has written expressly upon the subject) the patients were generally sea-sick, vomited much bile, and in some the good effects ceased when they became familiar to the ship's motion, and were no longer sick. He relates the case of a consumptive patient who went to sea three times, the distance ten leagues each time; he was always sick, vomited bile, and was cured. The Doctor supposes the benefit his patient received arose from the exercise, and breathing a pure air impregnated with saline and bituminous particles. Each voyage lasted but five or six hours, and will any person suppose that space of time was sufficient to perfect a cure, however the air might be impregnated? Is it not more reasonable to suppose it arose from the effects of the sea sickness? The stomach was cleared, the matter ejected from the lungs, the biliary obstructions removed, and the digestive faculties restored; good chyle being produced the body was nourished, and health was recovered,



recovered, the cause of the disease being removed.

I have been informed by a gentleman <sup>10</sup>, whose abilities and philanthropy are highly respected in an illustrious assembly, that a few years since, (November 1778) having a violent cough which prevented his lying down for many nights, attended with fever and inflammation on his breast; he was ordered by his physicians, after his illness had continued a month, immediately to quit the kingdom and seek relief in a warmer and softer climate. Accordingly he embarked at Dover for Calais, the weather was stormy, and during the passage which lasted about three hours, he vomited violently and almost incessantly. After landing, being much fatigued, he went to bed, slept soundly all night, and next morning to his great surprise found himself almost perfectly free from his cough, and every other complaint, save the foreness occasioned by the continued vomiting. He pursued his

<sup>10</sup> G— D—, Esq; M. P.

The fits of coughing were so severe, that he often dropt down deprived of sense and motion.



journey to Orleans rather for pleasure than health, and remained well. I surely need not appeal to the reader's candour to say, from what cause this sudden cure was effected? It appears as evident as any proposition can do, that by the vomiting, whatever matter in the lungs occasioned the cough and other symptoms was discharged, and the cause being removed, the effect ceased, and health was restored.

Vomiting is produced by the coats of the stomach being thrown into contractions. Let this be done either by the motion of a ship, or the stimulus of emetic medicines, the effects will be precisely the same, in proportion to the continuance of the action. In the course of the complaint just related, the patient had taken nauseating doses of emetic medicines, which sometimes made him retch, but very slightly and without relief. Had they operated as violently as the sea-sickness, it is probable the effect would have been similar.

In violent affections of the breast it would seem, from this case, that vomiting should be continued proportionably long to effect a cure: But this may be done when weaker efforts

efforts do not produce the desired relief. Perhaps a viscid tenacious phlegm, similar to that producing what has been termed bronchial polypi, may occasion these obstinate complaints. But as the agitation of sea-sickness penetrates every part of the body, in a manner superior to the action of any emetic that is ever given in regular practice, it may remove obstructions in the abdominal viscera that would not yield to any other remedy <sup>11</sup>.

Every thing that is uncommon, to which people are not accustomed, appears surrounded with difficulties. In this light will be viewed a sea-voyage by those who have never seen salt water ; but on a nearer inspection, it will be found to be as easily accomplished as a journey to Bristol, or any part at a distance. A trial might be made in any of the vessels that are constantly going backwards and forwards, to the western coast of England. In summer, the northern trade offers opportunities every

<sup>11</sup> “ *Commotio denique, quæ in navigatione exci-  
tatur, vim habet helleboro levi et albo per similem.*”—  
ORIBAS. *Med. Collect.* lib. 6. cap. 23.

day, and vessels are frequently going to Holland and Germany.

If these excursions are attended with relief and abatement of the symptoms, it may induce the patient to make a voyage of greater extent. Of late years it has been the custom to send consumptive persons either to Lisbon by sea, or to Nice (after landing at Calais) by land. Setting the journey by land out of the question, I think they are both exceptionable. At Lisbon the weather is generally very hot in the day, and a keen cold easterly wind takes place in the evening, which being the very thing he fled from, is sufficient to deter the patient from taking up his residence there. At both places the accommodations are so different from those in England, that they become more than inconvenient; and the few that return cured from those countries, gives no great proof of the salubriety of the climates.

The atmosphere at sea, when agitated by moderate winds in a temperate southern climate, is the purest that can be found on the face of the globe; and I believe it will be allowed, that health may be enjoyed better

better at sea than on any part on shore. A late celebrated circumnavigator proved, that the scurvy was not a necessary consequence either of the food, confinement, or sea air; but depending upon certain local circumstances, which are always possible to be avoided. For the persons who died during that memorable voyage, although they passed through all the climates in the world, were fewer, respecting the number of the crew, than is admitted by the best calculation to die in the healthiest spot in Europe <sup>12</sup>.

From

<sup>12</sup> Capt. Cook with 118 men, performed a voyage of three years and eighteen days, through all the various climates, from 52° North to 71° South latitude, with the loss of one man only.

It is computed that in Madeira one dies out of 50 ann.

In the Pais de Vaud in Switzerland one in 45

In England on an average about one in - 25

In Madeira he would, therefore, have lost Seven men in the three years.

In the Pais de Vaud something more; and in England fourteen.

“ From these accumulated proofs, this proposition  
 “ seems evident. Indeed so pure and untainted is the  
 “ atmosphere at sea, from being duly ventilated by re-  
 “ freshing winds, that it becomes the undoubted asylum  
 “ for health in sickly climates, and during the rage of



From these considerations, and it being necessary there should be an object in view to occupy the mind, I conceive the longer the voyage and the shorter time they are on shore, the greater will be the probability of success. The coasts of the Mediterranean promise a fund of amusement, to a mind tinctured with classic learning. The time at sea is sufficiently long, the vessels employed in that trade perfectly commodious, containing every requisite necessary; the patient would breathe the soft balmy airs of Italy, and feed upon its delicious fruits. There they might make excursions on shore, and admire the noble remains of antiquity to be met with in almost every part: but the ship should be the place of their rest; to her, like her great prototype, they should return every night as to their home.

“epidemical or pestilential diseases at land.”—LIND on Fevers, p. 219. Ann. 1774.

“Illa autem quæ fit procelloso in mari jactatio robustissimum hominem, non assuetum, vertigine, vomitu, anxietate intolerabili, ipso animi deliquio afficit: hinc casu aliquando morbos inveteratos sic sanari novimus.”—VAN SWIETEN Com. in Boerhaave. Tom I. p. 34.

Italy

Italy is delightful in many respects, but the accommodations for the night, especially to Englishmen, are not among the number. In the first edition of this Essay when treating of sea voyages, I mentioned Madeira “as  
“ better (than Lisbon) being at a greater  
“ distance, more to the southward, and  
“ the air from its insular situation purer  
“ and infinitely more healthy.” This recommendation I was induced to give, from some information I had received from a medical friend, who had sent Phthifical patients to that island with success; and from what had been said on the subject by a late eminent physician, whose extensive correspondence gave him many opportunities of being well informed, of the degrees of health in different countries <sup>13</sup>. The length of the sea voyage which he objects to, I esteem, and it probably in the successful attempts has proved, of the most material be-

<sup>13</sup> “ Of all the places we are acquainted with, perhaps  
“ the island of Madeira enjoys the most equal tempera-  
“ ture; but the voyage and other circumstances attend-  
“ ing it, afford very formidable objections.”—FOTHER-  
GILL on Consumption, Med. Obs. & Inq. vol. 5. p. 368.  
An. 1776.

nefit. But conversing with intelligent persons who had lived in the island, I was not a little surpris'd to hear, that it was believed to be particularly prejudicial to the consumptive. It therefore became a necessary part of my duty, to give the public such information as should determine which of the opinions was to be received, which rejected. For this purpose I wrote to a respectable physician who has practis'd many years in Madeira, and he has very obligingly given me his sentiments upon the subject; by which it appears, that Madeira is by no means a proper station for those in a pulmonary consumption (particularly in the advanced period of the disease) to remain at<sup>14</sup>.

When-

<sup>14</sup> Extract from Dr. GORDON's Letter, dated Madeira, April 28, 1784.

" Sir John Pringle, and some others of my medical  
 " acquaintance in London, did me the honour about  
 " eight or nine years ago, to send some of their con-  
 " sumptive patients under my care, of which few re-  
 " covered; and I was induced to discourage them from  
 " sending any more to our island, especially as the gene-  
 " rality of these cases, are in the last stage of the  
 " disease before they leave Britain. And unless they  
 " are particularly recommended to some British mer-  
 " chant's



Whenever the patient has got the better of sea-sickness, or when they are not at first affected by the motion of the ship, I would recommend that they should be made to vomit every morning, or oftener, as the urgency of the symptoms may indicate, and to guard against costiveness by the use of any gentle laxative medicine. In vessels that are used in commerce to the Mediterranean, they may be supplied with every

“chant’s house, they have no alternative, but to take up  
 “their quarters in a public-house, which are very in-  
 “different in this place, and by no means calculated for  
 “their reception. No pecuniary consideration what-  
 “ever will induce the natives to accommodate Phthysical  
 “patients. Our provisions in general are not bad,  
 “though it is often difficult to procure proper diet  
 “for the Valetudinarians, by having no kind of market  
 “established. Our roads all over the island are very  
 “indifferent, and not shaded. The society is very good  
 “for those in health. A great scarcity of asses milk, and  
 “no such thing as nurses, or proper people to attend the  
 “sick. Add to all these objections, I am of opinion,  
 “that *our air is too fine and penetrating for hectic com-*  
 “*plaints*, and should imagine the south of France a much  
 “better climate, or even the Highlands in some of our  
 “West India isles. Am sorry the situation of Madeira  
 “will not permit me to give you better encouragement  
 “on the propriety of sending consumptive patients  
 “here.”

necessary



necessary, except vegetables; equal to what they can have on shore.

The instances in which sea voyages have been tried being usually desperate cases, and consequently often failing of success, should not be admitted as an argument against their propriety. But whether patients are to be sent into the country, to sea, or to foreign parts, still it is essentially requisite that they should be sent early in the complaint; before the lungs are greatly injured, before the body is emaciated, and whilst there remain stamina vitæ sufficient, not only to support the fatigue of the journey, but to afford a reasonable expectation of a recovery. That this is not attended to as its importance merits, is evident from the means so generally proving ineffectual; this fatal neglect of applying proper remedies in time, is the reason that the disease so often terminates fatally; and not, as we have before observed, that it is in its own nature incurable. Let not the reader accuse me of repetition when I again urge this argument; for it appears to me so indispensibly requisite, that a consumptive patient ought to have a starling hung in his room,

room, and taught to speak *principiis obsta*, without ceasing.

The patient is usually far advanced in the disease before the physician is consulted. They have loitered away their time in using family nostrums and oily, greasy emulsions, till it is beyond the power of art to save them from the grave. There is no malady more replete with danger than Phthisis Pulmonalis, and that danger is greatly augmented by its becoming familiar, from its frequency. It steals upon the patient under the insidious appearance of coughs, colds, and rheums, of which this variable climate of ours is so productive; and when they and their friends, so far from suspecting danger, imagine they are getting better, hear with astonishment that they are past recovery. This is a matter of such vast importance, that if I could only put people on their guard and quicken their apprehension of danger, I should think my time had been usefully employed on this subject.

From whatever method of treatment the symptoms of the disease begin to abate, it is particularly necessary to persevere with unwearied diligence; as a small relaxation  
may

may reduce the patient to his former point of danger. Even when every symptom has disappeared and the cure is perfected, it will be proper to continue in the plan of diet for some time, and to return with cautious steps to his former manner of living. This, in some constitutions can never be done with safety; the disease in a peculiar manner leaving a tenderness and a disposition in the habit to a relapse, rendering them liable to get cold, and susceptible of every variation in the weather<sup>15</sup>.

The most effectual means of restoring general health and strengthening the constitution, after they have been injured and reduced by this or any other chronic disease, is by living upon a nourishing simple spare diet, not exceeding in quantity or quality;

<sup>15</sup> “ Omnis Phthisis recrudescere solet; et qui semel  
“ fuit Phthisicus, nisi accuratissimum regimen adhibea-  
“ tur, vel à levissimâ causâ in eundem statum redit. Si-  
“ quidem non tantùm pulmones priori morbi insultu jam  
“ labefactati novæ impressionis eo magis sunt suscepti-  
“ biles; verùm etiàm vehementior proclivitas, atque  
“ dispositio in hunc morbum, ex ipsius corporis habitu,  
“ in his quàm in aliis comperitur.”—MORTON *Phthisiol.*  
lib. 2. cap. 6. p. 138. An. 1689.

breathing a pure dry, ventilated country air, taking such exercise as can be borne without fatigue, particularly on horseback, and using the cold or sea bath with proper precautions.



## CHAPTER XI.

*Gross living—effects of abstinence—vegetable diet—animal food—milk—testacea and jellies—warm drink—cloathing—large chambers—infection—conclusion.*

THE inhabitants of this country, are reproached by their more elegant and refined neighbours on the Continent, with eating more gross animal food, than any other people in Europe; and the charge is so far well founded, that it is extremely difficult to persuade them that any good can arise from abstinence. Even when ill, nourishing and comforting diet and drinks are thought essential to the recovery of health. This is observed, not so much among the lower and middling class of society, as among those whose education and superior rank might be supposed to have informed them better. Strong broths, jellies, wine-woy, &c. are as regularly and constantly found in the chambers of the sick (where they can be procured) as if they imagined the labours of the cook more requisite than the advice of the physician.

When

When the body is disordered, the stomach that faithful monitor in the constitution, by nausea and sickness shews an aversion to food. In every animal except the reasoning, this indication is never counteracted, and abstinence, the physic of nature, generally effects the cure. How far high living may occasion many of our diseases is no part of my present enquiry; but there is no doubt that it increases every symptom, and renders them more dangerous and difficult to cure: what then can be so absurd, so contradictory to common sense, as to pour down aliment when the stomach revolts against it? Nothing, except drinking when there is no thirst<sup>1</sup>.

The principle in the human body term-

<sup>1</sup> We are informed by the ingenious and accurate Abbè Spallanzani, that when he introduced food into the stomach of an animal that was not in health, the gastric fluid was incapable of digesting it. In such cases the food remained till it became putrid; whereas in a healthy state the gastric fluid has not only the power of dissolving the food, but even when putrid flesh has been taken into the stomach, in a short time the putrid smell and taste is corrected, so as not to be perceived—See *Dissertations relative to the Natural Hist. of Animals, &c.* §. 152. 249.—1784. Trans.

ed nature, has a wonderful power of restoring health if left to itself, and no impeding cause introduced to the constitution. Many diseases might be cured by abstinence alone, persevered in for a sufficient length of time; but that abstinence must be something more than lowering the common diet, avoiding high seasoned food and spirituous liquors<sup>2</sup>. What I understand by abstinence, is taking as little food as will support life, and that of the plainest and simplest kind, composed of particles the least heating and irritating; drinking only water, lying upon a hard mattress and rising early in the morning. I could adduce many instances of recoveries this plan has produced. Perhaps the case most publicly known, is that of Wood the miller of Billiracay in Essex, who, from a corpulent and generally diseased habit at the age of forty,

<sup>2</sup> “Solaque abstinencia sine ullo periculo medeatur.”—  
CÆLUS, lib. 3. chap. 2.

“I am firmly persuaded, that any man who will  
“enter upon the constant practice of bodily labour, and  
“of abstinence from animal food, will be preserved en-  
“tirely from the disease” (the gout.)—CULLEN first  
lines, § 540. Ed. 4. An. 1784.

became

became thin and perfectly healthy by abstinence and exercise alone. His food was pudding made of sea-biscuit and a little milk, drank sparingly of water, lay few hours in bed, and used as much exercise as his strength would admit of without great fatigue <sup>3</sup>.

Another instance of the salutary effects of strict abstinence, of equal notoriety with the former, even without exercise has lately occurred. A gentleman of great respectability in the mercantile world, who weighed thirty four stone nine pounds, put himself upon a strict diet of *four ounces of animal food, six ounces of bread, and two pounds of fluid in twenty four hours*. In one week he lost thirty pounds weight; and in six months was diminished the astonishing quantity of one hundred and thirty four pounds, or near nine stone; his health and spirits were greatly improved, and considering his remaining size was very active <sup>4</sup>.

As

<sup>3</sup> Medical Transactions, vol. 2. 1772.

<sup>4</sup> I had this account from himself, Aug. 27th, 1791; and at Christmas, 1794, I saw him rather improved in  
T
health,



As the fluids in our bodies are perpetually circulating and changing, new chyle being constantly poured into the subclavian veins, collected by the lacteals and lymphatics: and the finer parts continually excreted by the sensible and insensible perspiration, the grosser by other emunctories; by drinking only water and living on a vegetable diet, merely sufficient to support the strength, these fluids will in time be entirely renewed, their quality and disposition totally changed. The parts of the body which had been injured by disease or intemperance, will recover their natural state, and health be restored. I am of opinion that where a sufficient degree of vital strength remains in the constitution, and the digestive faculties are not destroyed, few chronic diseases would resist a plan of this kind, strictly pursued for

health, and not apparently increased in weight. In July, 1797, I was informed he continued well.

Dr. Barwick, Dean of St. Paul's, when far gone in a consumption and spitting of blood, was confined in a dungeon in the Tower with the windows boarded up; his diet was water gruel and currants boiled in it, herbs and fruit. At the restoration, after 15 months imprisonment, he came out fat and healthy.—*Biograph Britan.* vol. 1. p. 527.

a suf-

a sufficient time <sup>5</sup>. It is not to be expected that when the limbs are rendered useless, the joints fixed, and the glands indurated, that a spare diet will work miracles, and restore those parts to their original condition. But though it cannot be expected to perform a cure, it will do more towards it than any other method of treatment that I am acquainted with. The symptoms will be mitigated and the disease rendered more supportable, which in such deplorable situations is all that can be expected from art.

Such a plan should be entered upon with great caution and circumspection, all sudden changes being dangerous. For although there is a power in the human body as in the mind, of accommodating itself to different and various situations, the inhabitants of the frozen north enjoying health under the vertical sun of Africa; yet such transi-

<sup>5</sup> On the whole, I think, the *lightest*, and the *least* food may be justly termed the *shortest* and most effectual *antidote*, and the most *universal remedy*, for all distempers of the body, and errors and mistakes of the *mind*, that depend upon, or have any relation to, the body, that the wit of man can suggest or invent.—CHEYNE *Dis. Body and Mind*, p. 95. An. 1742.

tions, should be made as gradually as the circumstances will permit. Regard must be had to the age and constitution, to the former manner of living, and when they have indulged freely in the pernicious luxuries of the table, let them retrench by degrees till they descend to the point it may be proper to remain at.

The change in the constitution being produced slowly and imperceptibly, patience and perseverance are absolutely necessary. It is not a week nor a month, but sometimes years, that are requisite to restore a habit broken down by disease and intemperance. "*Gutta cavat lapidem non vi, sed sæpe cadendo.*"

Much depends upon the regulation of diet in every disease, but in none more than where the lungs are injured. They not only participate with the body in general, but are particularly liable to suffer by their vicinity to the stomach. In such cases the usual practice has been to abstain entirely from animal food, and in general it is judicious and proper. During the inflammatory period of the complaint, when the fever is continued and before the tubercles

cles are advanced, or matter secreted in the lungs, a vegetable diet with milk in any form that agrees with the stomach, is indispensably necessary. Sago, barley, millet, and rice, make an agreeable variety, and ripe fruit may be indulged in at pleasure. Thames flounders and small whittings may be taken occasionally, without prejudice.

An infusion of the husks or bran of oatmeal, after a slight fermentation, being strained, may be boiled to a light gelatinous substance, called in the North Souins. This eaten with milk and sugar is a light nourishing diet, and well adapted to cases of this nature.

In the advanced period, when purulent matter is brought up, and the hectic fever with remissions and morning sweats completely formed, I have thought a small portion of animal food taken for an early dinner, has sometimes produced a good effect. It should consist of chicken or weak broth from lamb or veal, in preference to beef or mutton. But as there is always a certain degree of inflammation subsisting in the lungs, it is very apt to increase the heat



and fever, and therefore requires great attention.

Jellies of calves feet, hartshorn shavings, and isinglafs, are universally recommended as restoratives to the weak and infirm. Being made from the most viscid parts of animals, and by long boiling their more volatile particles dissipated, they are not only liable to the same objections with animal food in general, but I very much doubt of their possessing the nourishing property attributed to them. A certain quantity of wine is always a part of the composition, and usually not in a small proportion; they are therefore most improper diet for the consumptive, where it becomes necessary to be particularly guarded against cordial and nourishing messes.

Milk is a mild soft fluid, requiring little force to be assimilated into nourishment, as it becomes the principal part of the diet it should be taken in the manner most agreeable to the patient. Sometimes cows milk forms a curd too dense to be readily dissolved in the stomach; in such cases, rennet-whey may be substituted, or what is much better, asses milk; but it should  
be

be drank as food, to the quantity of two or more pints in a day. The lightest and best of this class is women's milk sucked from the breast, and where it can be complied with, is superior to every other diet. There are instances related of its curing without the assistance of medicine, even in the last stage of the disease <sup>6</sup>. In a work  
on

<sup>6</sup> “Novi autem quemdam, qui quum toto anno ipsum et  
“bibisset, et comedisset (lacte,) interim cum frumentaceo  
“aliquo, aut similagine, aut libo suminali, aut alica, aut  
“lente, aut panico incoquens: quumque ita agendo a  
“vino abstinuisset, liberatus fuerit, & puris sputo, et ne  
“postea in phthisin inciderit. Tantum etiam de sanguini  
“nis rejectione dictum a nobis sit: putoque abunde  
“sufficere.”—ALEX. TRALL. lib. 7. cap. 1.

“Nihil ad hæc omnia lacte videtur esse præstantius,  
“præcipue quidam si quis muliebrem mammam ore ap-  
“prehendens id ipsum mulgere toleret.”—GALEN DE  
MARCORE, cap. 9.

“Itaque lac muliebre primum locum obtinet, secun-  
“dum vero asininum. Verum quoniam ægre nonnulli  
“hoc assumunt, caprillum ipsis dandum est, quod me-  
“dium fere existitit, et magis potest nutrire.”—ALEX.  
TRALL. lib. 12. cap. 4.

“Si quis Phthificus multum lactis potet, nullo alio  
“eget auxilio.”—ARETÆUS Cap. de Morb. Chron.  
lib. 7. Ed. Ox. 1723.

“Lac animale, ut princeps nutriens, humectans, de-  
“mulcensque, et quidem Humanum ex ipsis uberibus

on this subject published in France, two cases are given of the disease being perfectly cured by the patient's sucking healthy women. One of the nurses did not long survive; which might proceed, not from infection as the author asserts, but from inanition; as it is very common for weakly women to fall into a general consumption by suckling their children too long. Had the disease been infectious, the effects would have appeared at the beginning, when the expectoration was copious and the breath loaded with particles of pus; but it was sometime after the patient recovered that the woman fell ill. It seems therefore, that the patient being stronger than infants, a greater quantity of milk was secreted than the strength could bear, the consequence was weakness and decay, as in every other case of great discharge<sup>7</sup>.

“suctum; quippe quod homini maxime sit affine, ac nimis viribus degerendum.”—WEN. TRNKA Hist. Feb. Hecticæ, p. 351. An. 1783.

ROBINSON on Consumption, part 2. p. 148. An. 1727.

<sup>7</sup> M. FOURNIER de la Fièvre lente ou Hectique, An. 1781. Dijon.

The common practice of mixing rum or other spirits with milk, cannot be too strictly inhibited. This is a vulgar error and has become so general, that much attention is requisite to prevent its admission. Butter-milk, from its incessant quality is cooling, nourishing, and refreshing, it may be drank ad libitum.

A drink somewhat similar called Koumifs is in great estimation in some parts of Russia and among many tribes of Tartars in diseases attended with debility, particularly in consumption of the lungs. It is made with mares milk, but there is no doubt that cows or goats milk would answer equally well, should it be adviseable to make the experiment <sup>8</sup>,

Milk

<sup>8</sup> “ Take of fresh mares milk, of one day, any quantity; add a sixth part of water, and pour the mixture  
“ into a wooden vessel; use as a ferment, an eighth part  
“ of the sourest cow’s milk that can be got; but at any  
“ future preparation, a small portion of old Koumifs will  
“ do better. Cover the vessel with a thick cloth, and  
“ set it in a place of moderate warmth for twenty four  
“ hours, when it will become sour, and a thick substance  
“ gather on the top. It is then to be beaten with a  
“ stick till all is intimately mixed together; then leave  
“ it at rest twenty four hours more, and pour it into  
“ another



Milk mixed with conserve of roses, raspberries, and other preserved fruit, when the fresh cannot be procured, will prove an agreeable change. Ice cream is grateful, and not a contemptible medicine, especially when there is a disposition to hemoptoe. In the convalescent period, milk may be mixed with mineral waters, or lime water, as the symptoms may indicate.

Oysters, muscles, crawfish, and other testacea, are usually admitted into the diet of the consumptive. Their qualities are nearly equal and are among the tenderest of animal food; if they agree with the sto-

“ another vessel like a churn, and repeat the agitation  
 “ till the the liquor is homogeneous. In this state it is  
 “ called Koumifs, of which the taste ought to be a plea-  
 “ sant mixture of sweet and sour. Agitation must be  
 “ employed every time before it is used. It may be made  
 “ drinkable in one day, by warming the milk, and using  
 “ much agitation.” He directed it in many cases of  
 incipient Phthisis, debility, extenuation from debauchery,  
 nervous diseases, &c. with great benefit. They drank a  
 gallon a day, taking scarcely any other food. It had  
 no operation but by urine, produced spirits, strength,  
 sleep, and they soon recovered their flesh and complexion;  
 some in six weeks from a very weak and reduced state.  
 — Dr. GRIEVE's Annual Register for 1788.

mach,

mach, they may be taken occasionally as a variety.

It is to be carefully observed, that the quantity of food should be, not what the patient can take, but the smallest they can subsist upon, and that should be of parts the softest and most easily dissolved. The great object in regulating the diet of weak people, is to guard against their taking too much at a time; food oftener disagrees and is hurtful by the quantity, than by the quality. In the advanced period of Phthisis this is a matter of the greatest importance; the appetite being sometimes preternaturally keen; the patient and his attendants think they cannot eat too much. In such cases a small quantity should be taken at a time, and repeated frequently; more than half a pint will be improper.

The drink in every period of the disease should consist of water, the lightest and softest that can be procured, with toasted bread infused in it; or what is better, boiling water poured upon hard toasted bread and let stand till perfectly cold; the animal and vegetable matter more or less in every kind of water, will by this means be precipitated,

cipated, the rawness of it removed, and some degree of nourishment communicated. Distilled water being lighter than any other, is greatly to be preferred, not only as being pleasant, but its medicinal quality I consider of great importance in the cure of chronic diseases. Milk and water, whey made with the juice of lemons and oranges, or of any other fruit, and lemonade may be taken occasionally. In summer when there is a variety of ripe fruit, their juice mixed with water makes an agreeable and elegant beverage. But when the patient is indulging with ripe fruits, attention must be paid to the state of his bowels, and the first tendency to a diarrhoea assiduously guarded against.

In almost every kind of illness it is the custom to give the patient whatever he drinks, made warm; and in complaints arising from cold, hot suppers are esteemed a sovereign remedy. I have often thought this practice militated equally against the just principles of pathology, and common sense. We give saline and neutral medicines cold, to abate heat, inflammation and fever; but the barley-water must be made

as hot as the patient can drink it ; into such absurd contradictions are we led by neglecting reason, and blindly following custom and habit. Warm liquids are supposed to produce perspiration, the general cure for every ill, but they much oftener have a contrary effect, by augmenting the heat and dryness on the skin. In continued fevers cold drinks are wonderfully grateful and refreshing to the sick, and in general I believe they will be found most useful, particularly in diseases of the lungs. The *fervida potio* is strongly recommended by Baglivi for resolving pulmonary obstructions, but I have never seen them of any use.

Wine, spirits, and fermented liquors of all kinds, however diluted and however anxiously longed for, must be rigidly forbidden. They raise the spirits and relieve the languor and faintness always attending morning sweats ; but they infallibly increase the succeeding fever, and aggravate every symptom.

To those unacquainted with the chambers of the sick, such regulations may probably appear trifling and unnecessary ; but they who see and know how sick people are  
dieted,



dieted, know that upon such trifles their well-being depends. In vain the physician may assiduously watch the symptoms and changes in the disease, and prescribe the most powerful and efficacious medicines, if the nurse is permitted to pour in strong indigestible broths and high-seasoned hashes, in his absence.

I cannot too strongly inculcate the necessity of the greatest attention to diet in every period of the complaint. Diet alone, without the aid of medicine, will go great lengths in the cure; but there is no medicine, nor any other remedy that has yet come to my knowledge, capable of producing any permanent relief without a strict regulation of diet. And however severe such restrictions may appear to the patient or their friends, who have been accustomed to fare sumptuously every day; they may be assured and I say this with full confidence, that so far from being starved, as they so much apprehend, a short trial will convince them of its powerful and good effect.

Persons of a delicate habit of body, and who are liable to complaints in the breast, should

should be cautious in changing their clothes from winter to summer. Indeed, in this climate where the weather is so variable, the less alteration that is made the better. An eminent author supposes the imprudent changing of garment, destroys more than the plague, famine, or the sword; one would think the ladies dressed in those days as now, wrapping themselves up in the day, and exposing their persons to the cold damp night air. The manner of dressing young people is sometimes the cause of pulmonary complaints, all pressure and tight lacing being injurious<sup>8</sup>.

When the patient's situation will admit of choice, it will be proper to lie in a large chamber well ventilated, with the chimney open, and at all times of the year the bed curtains not drawn close. Let the advice of Celsus always be had in remembrance, especially in pulmonary complaints<sup>9</sup>.

Authors

<sup>8</sup> "Very straight lacing, and straining for a fine shape, hath made many a fine girl spit blood, and ruined the lungs, by preventing a full and easy respiration."—  
HUXHAM on Pleurisia, p. 234. An. 1757.

<sup>9</sup> "Etiam amplo conclavi tenendus, quo multum et purum aerem trahere possit; neque multis vestimen-  
tis

Authors have supposed this disease to be infectious, and communicable in the same manner as other contagious fevers, by the perspiration and breath<sup>10</sup>. I am not of this opinion. Perhaps in the last stage when the remaining portion of the lungs are in a manner loaded with purulent matter, par-

“tis strangulandus, sed admodum levibus, tantum ventus landus est.”—CELSUS, lib. 3. c. 7. (Ed. Wedellii. A. A. D. 33.)

<sup>10</sup> “Periculosum præterea est, consuescere his, qui tabe tenentur, atque in totum cum omnibus qui putridum adeo expirant, ut domicilia in quibus decumbunt, graviter oleant.”—GALEN de Feb. lib. 1. cap. 3.

“Contagium etiam hunc morbum propagat. Hic enim affectus (uti frequenti experientia observavi) lecti socios miasmate quodam, sicuti febris maligna, inquinat.”—MORTON Phthysiol. p. 70. An. 1689.

“Certe juvenis ille, cujus modò mentionem feci, infecta sororem et ancillam, quæ ipsi in morbo assidue ministraverat.”—VAN SWIETEN Com. Tom. IV. p. 64. §. 1206.

“Si enim pulmo aerem inspiratum ita contaminat, quid prohibere potest quo minus circumstantes afflatu suo lædat: Immo plures à contagione in illam calamitatem incidere quam à natalibus censeo dum incauti cum tabidis conversantur, edunt, bibunt, & confabulantur.”—Angliæ Flagellum seu Tabes Anglica THEOPHILO DE GARENCIEGES, M. D. An. 1647. 8vo.

tics

tibles of it may be exhaled by the breath, and if received into the lungs of an healthy person, the disease may possibly be in that manner generated. It will be prudent to guard against it, by preventing children and young persons who are most apt to receive impressions of this kind, being much about the sick, particularly not to let them sleep in the same bed, nor even in the same chamber if it can be avoided.

I have now gone through the several heads proposed in the beginning of this Essay; in the course of which I have been less solicitous of writing well, than writing intelligibly. I have endeavoured to unite perspicuity with brevity by avoiding common-place trite observations, and useless digressions. However the picture which I have drawn of the disease may differ from those represented by other authors, the reader may be assured it was not taken from fancy; the studies were made in the chambers of the sick, and the canvases filled up upon mature deliberation. Many errors and repetitions I am sensible will be perceived; but should the practice recommended be



found useful in a disease, hitherto when confirmed, ranked among the incurables, I have no doubt the intelligent reader will pass them over with that liberality always accompanying learning and abilities, regarding the intention rather than criticising the execution.

TO CONCLUDE. From considering this subject for many years, observing with careful attention such cases as have occurred in my own practice, and missing no opportunity of examining the bodies of those who have died of the disease; I am of opinion that a consumption of the lungs if taken in time, that is, before the strength is greatly debilitated, the lungs reduced in their substance, or the digestive powers rendered incapable of assimilating nourishment, is as curable as any other disease of the viscera. But if the patient or those having the charge of them, will defer seeking assistance, or when called neglect the advice given, till the disease is too far advanced; spending that time in swallowing family nostrums, and useless nauseous medicines, that might be employed in following the best advice they

they may be capable of procuring; are we to be surpris'd that a disease in itself always full of danger, should so frequently terminate fatally!

PRINCIPIIS OBSTA, SERO MEDICINA PARATUR,  
CUM MALA PER LONGAS CONVALUERE MORAS.

OVID.

## APPENDIX.

*The opinions of Physicians, ancient and modern, on the use and effects of frequent vomits ; and some instances to shew, that they are the only means of relief in certain disorders of the contents of the thorax.*

THE very indulgent reception which the former Editions of this Essay has received from the public, deserves my warmest acknowledgements. And I embrace with much satisfaction the opportunity granted me, not only of correcting it to the utmost of my power, but also of answering such objections as I understand have been publicly or privately made to the doctrine there laid down. Those have been confined to two general heads. The difficulty that will be found in prevailing upon patients to persist in a course of vomiting for the time requisite for the cure ; and the apprehension that the stomach will be injured by the frequent repetition of the operation.

When patients are convinced of their danger and have a confidence in their physician, they seldom hesitate to follow such direction as he shall think proper ; and if  
the

the propriety of those directions cannot be made evident to any person of common understanding, I should strongly suspect the principles on which they are founded. The continuance of any remedy will always depend upon the relief experienced; when that is evident, the desire of life implanted in every breast, will supersede any reluctance arising from the disagreeableness of the medicine.

That the stomach will bear vomiting for any length of time without the smallest injury, has been clearly proved in the chapter upon the use of sea voyages. But as young practitioners may not be well acquainted with the general effects of this active agent on the human constitution, I shall produce some cases and authorities from names of such eminence in the profession, as will, to the unprejudiced mind, be decisive in favour of vomiting in many different diseases, as well as in those affecting the contents of the thorax. In this deduction the reader will perceive, that the safety and propriety of vomiting every day in complaints of the breast, does not rest alone upon my assertion; for although it



was not before used in Phthisis Pulmonalis, in the manner I recommend, yet in other affections of the lungs it will appear to have been continued for several weeks, upon different principles from those I have endeavoured to explain. The authorities I shall quote will prove, that vomiting has been directed by physicians in every age, from the days of Hippocrates to the present time. That the ancients did not prescribe vomits so frequently as the moderns, does not appear to proceed from their disapprobation, but from the violent and unmanageable effects of the medicines they used for that purpose. Even in the last century, we find the learned Sydenham lamenting the want of an easy and safe emetic medicine that might be given to children in every age.

The list of authors I could have extended with great ease, but I feared trespassing on the time of the experienced reader, for to him I do not presume to offer arguments with which he must have long been familiar; and to others they will probably be sufficiently numerous.

The

The STOMACH, situated obliquely downwards and backwards nearly in the middle of the body, between the abdomen and thorax, is an organ, that next to the brain, of the greatest importance in the animal œconomy. The first and principal process of digestion is performed in it, not by trituration according to the opinion of those who account for every operation in the human body upon mechanic principles, but the matter being dissolved and macerated by means of the succus gastricus, secreted from innumerable glands and exhalent vessels, placed in its internal surface<sup>1</sup>. The digestion therefore depends upon the condition and state of these secretory vessels; and the nourishing and even existence of the body, upon the process being rightly performed so as to produce good chyle. Need we then wonder, that the ancients entertained so exalted an idea of the stomach as to suppose the soul seated in it; or that the great and learned Lord Verulam should familiarly, but emphatically, call it the father of the family!

<sup>1</sup> SPALLANZANI Dissert. on Nat. Hist. 1784.

In almost every disease arising from internal causes, and many from external injuries, the first symptom, the earliest indication of the body deviating from a state of health, is felt in the stomach<sup>2</sup>, by a nausea,

<sup>2</sup> “ In all decays we generally perceive the stomach  
“ the first bowel affected, and with good reason, since it  
“ is the storehouse that ministers supplies to every individual nerve and fibre of the body.”—ROBINSON on Consumption, p. 128. An. 1727.

“ In all consumptive cases, nay, I might have added,  
“ in all chronical diseases, it will be perceived, that the  
“ stomach is the part that is affected, and nothing is  
“ more reasonable, than that it should be so, since it is  
“ the receptacle from whence every individual vessel and  
“ fibre of the body has its supply of nutritive juices.”—STEPHENS on Consump. p. 140. An. 1761.

“ During inflammation of the stomach, a greater loss  
“ of strength takes place, than in the case of almost any  
“ other inflammation.”—CULLEN first lines, § 386. An. 1784.

“ My third observation is, that the stomach, which  
“ has so universal a consent with the rest of the system,  
“ is the internal part that is the most frequently, and  
“ often very considerably affected by the gout. The  
“ paroxysms of the disease are commonly preceded by an  
“ affection of the stomach; many of the exciting causes  
“ act first upon the stomach; and the symptoms of the  
“ atonic and retrocedent gout, are most commonly and  
“ chiefly affections of the same organ. This observa-

“ tion

sea, sickness, or inappetency to food. Its  
 influence is so great upon the body in ge-  
 neral, that a late learned professor has ob-  
 served, “ When the stomach is in a sound  
 “ state, and digestion is properly perform-  
 “ ed, the spirits are good, and the body is  
 “ light and easy; but when that organ is  
 “ out of order, a languor, debility, me-  
 “ lancholy, watchfulness, or troublesome  
 “ dreams, the night-mare, &c. are the con-  
 “ sequences. Grateful food, strong wine,  
 “ or other spirituous liquors, no sooner  
 “ touch the stomach of one ready to faint  
 “ from emptiness, than they communicate  
 “ new life and strength to the whole body:  
 “ and on the other hand, several poisons  
 “ occasion violent sickness, vomiting, faint-  
 “ ing, tremors, convulsions, stupidity, an  
 “ intermitting pulse, difficult breathing,  
 “ coldness of the extremities, and other  
 “ symptoms, (frequently instant death, as  
 “ in the case of taking laurel water.) A  
 “ tion leads us to remark, that there is a balance sub-  
 “ sisting between the state of the internal, and that of the  
 “ external parts; and in particular, that the state of the  
 “ stomach is connected with that of the external parts,  
 “ so that the state of tone in the one may be communi-  
 “ cated to the other.”—CULLEN first lines, § 802. An.  
 1784.

“ fever



“ fever *delirium*, and violent convulsions  
“ have been produced by a pin sticking in  
“ the coats of the stomach : and worms,  
“ affecting either this part or the intestines,  
“ occasion a surprising variety of symp-  
“ toms.” And again, “ an irritation of  
“ the nerves of the stomach or intestines,  
“ from wind, acrid humours, or other  
“ causes, whence the whole system is often  
“ brought into consent. Nor can it admit  
“ of any doubt, that hysteric fits frequently  
“ proceed from this cause ; since the pa-  
“ tients are often sensible of their begin-  
“ ning with an uneasy sensation in those  
“ parts 3.”

The sympathy of the stomach with the other parts of the body, and its importance in the animal œconomy being apparent, I shall proceed to shew, that among the medicines acting chiefly if not entirely upon it, the principal of them, and what produces the greatest and most permanent good effects are such as excite vomiting.

In early ages the materia medica was confined to a few articles, and those often rough and drastic in their operation. Prob-

bly this is the reason that emetics were not so generally used, as in our time; yet we find them recommended in various diseases by every author whose works have escaped the ravages of time.

HIPPOCRATES orders vomits, though not frequently <sup>4</sup>. The idea that every disease would

4 “ Vomitus commodissimus est, ex pituita ac bile  
 “ quàm maximè permixtus et non crassus valde, neq.  
 “ multus. Nam meraciores, deteriores sunt. Si verò id  
 “ quod vomitu rejectum est prasini fuerit coloris, aut  
 “ lividum, aut nigrum: quicumque horum fuerit colo-  
 “ rum, malum esse putandum est. Si verò omnes co-  
 “ lores idem homo vomit, valde perniciosum hoc est.  
 “ Celerrimam autem mortem significat lividus vomitus,  
 “ si graveolens fuerit. Omnes verò subputridi ac fœtidi  
 “ odores, in omnibus vomitibus mali sunt.”—HIPPOC.  
 “ Prænotion. p. 404. Ludg. 1555.

“ Graciles et facile vomentes, sursum purgare oportet,  
 “ vitantes hyemen.”—Ibid. Aphor. sect. 4. vi. et xviii.

“ Quicumque ex pleuritide suppurati fiunt, si in qua-  
 “ draginta diebus repurgati fuerint, ab ea die quâ ruptio  
 “ facta fuerit, liberantur. Si verò non, ad tabem tran-  
 “ seunt.”—Ibid. Aph. sect. 5. xv.

“ For by a vomit timely administered, the matter of  
 “ the imposthume is pressed out by the contraction of  
 “ the thorax which the vomit causes, and so the impost-  
 “ hume is cleansed, the matter of which would other-  
 “ wise rot farther in, and so cause an ulcer, and this a  
 “ consumption.”—SPRENGELL Com. on Hipp. Aph.  
 p. 115. An. 1708.

See

would terminate by crisis on some certain day, precluded any attempt to remove it before that time, lest the concoction of the humours should be disturbed. Experience has nearly worn out this opinion, to which, the great difficulty not to say impossibility of ascertaining in many cases the first day of the disease, has not a little contributed.

GALEN<sup>5</sup> is particular in his directions  
when

See also de Morbis. lib. 2. Pulmon. Morb. where he orders Veratrum (which was an emetic) to be drank by itself.—FRIEND Com. in Hipp. Morb. Popul. p. 39. An. 1717.

5 “ At verò qui ægrè per superiora purgantur, ii,  
“ nisi prius reddantur habiles, præparenturque ad vomitum, minimè assumant veratrum. Præparabuntur autem medicamentis vomitoriis mediocribus, nec non cibo uberiori, et quiete. Etenim nos radículas ex oxymelite propinavimus, quas arundine perforatas, ac ramulis veratri albi transfixas, per totum diem atque noctem reliquimus. Atque ejusmodi ex elleboro facta purgatio erit imbecilla. Verùm qui angustum habent pectus, eoque etiam compressum, ineptissimi ad purgationes existunt, quæ per vomitoria medicamenta fiunt, ac potissimum per album veratrum: si quidem thoracis aliquod vas, ipsis rumpitur. At bilis suprà, pituita per inferna vacuare debet. Est quando contrario modo accadat, siquidem in ventriculo pituitosus,

when vomiting is proper or improper, and the preparation necessary to be observed before the operation. He cautions against vomiting those with narrow chests, especially with veratrum album (bear's-foot) lest a blood vessel should be ruptured. But we know that there is not the smallest danger of this accident happening, because there is no stress upon the vessels of the lungs, little or no blood passing through them in the action of vomiting.

ALEX. TRALLIAN<sup>6</sup> is more liberal in the use of emetics, and orders them in a variety of diseases.

ARETÆUS,

“tosus, biliosus autem in intestinis humor resideat.  
 “Melancholicum verò semper per inferiora vacuare  
 “oportet. Sic æstate quidem superiores ventres, hyeme  
 “verò inferiores movere convenit, ut autor est nobis  
 “Hippocrates: sed regiones etiam, anni temporis, ætatis,  
 “consuetudinisque non exigua ratio est habenda. Si-  
 “quidem qui (gratia exempli) vomere soliti sunt, faci-  
 “lius purgationes ferunt per superiora: qui non assue-  
 “verunt, haud citra periculum: magisque ex veratro.”—

GALEN. Quos et quando Purg. Epit. Oper. Lugd. 1643.

6 “Sin autem affectus inveterascit, etiam vomitus  
 “e radiculis raphani prodest.”—ALEX. TRALLIAN, lib.  
 1. cap. 10. Ed. Alb. Hal. Lauf. 1772.

“Quod si vero mulsam non libenter sumant, tepida  
 “aqua ipsis liberalior dari debet, atque vomitus solici-  
 “tari



ARETÆUS <sup>7</sup>, one of the most learned and best informed among the ancients, orders frequent vomits in various diseases, viz. *Lienteria*, *Epilepsia*, *Elephantiasis*, *Coeliaca*, &c. and in these cases not only as remedies, but he orders the weaker emetics as a preparation for the more violent, as hellebore when given with that intention.

CELSUS approves of vomits rather in the winter than summer (contrary to the opinion of Galen) in bilious habits, when there is bitter eructations, with pain and weight in the præcordia, heat in the breast, &c. as by that means corrupted matter is expelled the readiest way. In pestilential and ardent fevers he vomits to purge the breast. And although he is no friend to vomits in diseases of the breast, yet he has recourse to them as a dernier resource in slow fevers, “ Si non  
“ liberaverat, decoquebat aquam sale adjecto,  
“ tari aut digitis, aut pennis anserum ex hydrelæo in os  
“ inditis, donec corrupta abunde evacuata tibi esse vide-  
“ antur.” ALEX TRALLIAN lib. 7. cap. 14. Ed. Alb. Hal. Lauf. 1772.

He also recommends them in Cephalalgia and Hemicrania, lib. 12. in Epilepsy, cap. 15. in Melancholio, cap. 17. in Anorexia biliosa, lib. 7. cap. 5. in Cholera Morbo, lib. 7. cap. 14. and in many other diseases.—

7. ARET. Cap. Oxon. 1723.

“ camque

“ eamque bibere cogebat, ut vomendo ven-  
 “ trem purgaret <sup>8</sup>.”

From the scattered hints we find in historians there is great probability, that the Egyptians were in possession of a very considerable portion of medical knowledge. Authors of great reputation inform us, that they vomited and purged frequently in order to preserve health, which they supposed was most frequently injured by superfluity, or improper quality of the food, and therefore to be remedied by evacuation and abstinence <sup>9</sup>.

The

8 “ Vomitus utilior est hieme, quam æstate nam tum  
 “ et pituitæ plus, et capitis gravitas major subest. In-  
 “ utilis est gracilibus, et imbecillum stomachum habentibus,  
 “ utilis vero plenis et biliosis omnibus, si vel nimium se replerunt, vel parum concoxerunt.”

“ Qui vomere bis in mense vult, melius consulet, si  
 “ biduo continuerit, quam si post quintum decimum  
 “ diem vomuerit; nisi hæc mora gravitatem pectori  
 “ faciet.”—CELSUS, lib. 1. cap. 3.

“ Si pituita in stomacho coit, inclinata jam accessione,  
 “ vomere cogendus est; et tunc dandum frigidum olus,  
 “ aut pomum, ex his, quæ stomacho conveniunt.”  
 Ibid. lib. 3. cap. 7.

9 Singulis mensibus triduo purgant se, vomendo atque intestina diluendo, gratiâ sanitatis conservandæ.—HEROD. l. ii. § 77. Ed. 1618.—fl. 444 bef. Chr.

Morbos

The judicious MORTON<sup>10</sup> bears testimony, though reluctantly, to the good effects of vomits in incipient Phthisis; and in other parts of his works he directs them in remitting fevers, and in the preparation for the small pox.

WILLIS is more liberal in his recommendation of this remedy; he orders emetics in

Morbos ut antevertant clysteriis et potabilibus quibusdam purgamentis, jejuniisque et vomitu, corpora medicantur.—DIOD. SIC. Bibl. Hist. l. i. p. 52. ed. Rhod. 1604 Diod fl. 6 years bef. Chr.

10 “Maximi momenti est post extractionem sanguinis,  
 “præciupè autem si morbus à crapulâ ortum suum du-  
 “cat; vel si nauseam, et vomendi dispositionem con-  
 “junctas habeat, *Emeticum* leneprescribere è *Melle*, vel,  
 “*Oxymelite scyllitico*; immò et aliquandò è *Vino Benedicto*  
 “modicâ quantitate sumpto. A quâ vomitione, non  
 “tantùm Ventriculus humorum saburrâ oppressus rele-  
 “vari, et nausea inde nata tolli, et digestio restituti pos-  
 “sint, (quæ omnia non sunt flocci habenda;) verùm  
 “etiàm moles humorum jam pulmonibus impactorum,  
 “harum partium exagitatione inter vomendum, insig-  
 “nitèr expectorari solet, unà cum notabili relevatione  
 “ponderis gravativi à mole istâ effecti. Atque hoc ritu  
 “non tantùm plurimos *Empiricos* vidi, cum successu fe-  
 “lici, sese omnem incipientem Phthisin curaturos glori-  
 “ari, verùm etiàm ipse ego ratione, et experienciâ fretus  
 “sæpissimè Phthiseos incipientis progressum eodem modo,  
 “brevis temporis spatio, præpedivi.”—MORTON Phthis.  
 lib. 2. cap. 8. An. 1689.

the

the dropſy, epilepsy, convulſions, jaundice, &c. " " Evacuation by vomit is more  
 " violent than by ſtool, ſo if it be conſiſtent  
 " with the ſtrength of the patient, it doth  
 " more good in ſome caſes than ten purges :  
 " for by this means, the ponderous phlegm  
 " that ſticks in the folds of the ſtomach, and  
 " which all other cleanſers would ſlip by, is  
 " cleared away as with a beſom ; and ſo  
 " likewise the adjacent parts, as the pancreas,  
 " or ſweet-bread, the meſentery, the ſpleen  
 " and liver itſelf are violently coneuſed or  
 " ſhocked, inſomuch that all obſtructions  
 " in them, together with all ſtagnations or  
 " ſettlings of the blood and humours what-  
 " ſoever, are very eaſily removed by this kind  
 " of medicine. All ſtrange ferments, wherever  
 " generated in the body, and alſo the deeper  
 " ſeminaries of diſeaſes, are ſeldom rooted  
 " out without the adminiſtering of vomits ;  
 " but eſpecially in the diſtempers of the

11 WILLIS Phar. Rat. p. 2. ſec. 2. c. 1. et Ph. Rat.  
 p. 1. ſec. 2. c. 1. An. 1684.

The med. he uſed for this purpoſe were Vitriol, Tobacco, Briony root, Mezerion fruit, Nux-indica, Eggs of a fiſh called a Mullet or Barbell. Flower of Antimony, Crocus Metallorum, Mercurius Vitæ, Glaſs of Antimony, &c.



“ brain and nerves, the use of vomits is  
“ found to be very advantageous.—And for  
“ this reason chiefly it is, that great  
“ distempers are best cured by vomits,  
“ and scarcely without them.—But in the  
“ mean time, vomiting phyſic is not to be  
“ uſed by all people without any diſtinction.  
“ For in ſome the tone of the ſtomach is  
“ too looſe and weak, and their conſtitu-  
“ tions ſo tender, that their ſpirits preſently  
“ faint with vomiting, and their ſtrength  
“ is enfeebled ; ſome alſo have their bowels  
“ endued with extraordinary retention of  
“ ſuch ſenſible impreſſions as are made  
“ upon them ; and though they are long  
“ before they can be made to vomit, yet  
“ their vomiting when once begun is not  
“ eaſily ſtopped ; yea, through their fre-  
“ quent ſtraining to vomit, they are ex-  
“ poſed to great loſs of ſtrength, and often-  
“ times ſwoonings too.—And then again,  
“ in reſpect that the ſuperfluities or ſtagna-  
“ tions of the nervous humour are moſt  
“ eaſily cured by ſuch evacuations as theſe,  
“ the uſe of vomits contributes very much  
“ towards a cure in the gout, aſthma, epi-  
“ lepsy, madneſs, and many other diſtemp-

“ crs

“ers that are accounted great and herculean diseases, &c.”

The cautions of this learned and eminent author certainly demand serious consideration; but they will diminish greatly in their weight, when we reflect that the vomits he used were of the drastic kind, either preparations of antimony, mercury, vitriol, tobacco, &c. and these given in full doses, and that the emetic medicines we are in possession of are mild, gentle, and certain in their operation, especially when administered in small doses.

The great and learned SYDENHAM<sup>12</sup> was well acquainted with the good effects of vomiting, instances of which we find in various

<sup>12</sup> R. Infus. Croc. Metall. ʒvi. Oxymel. Scillit. & fyr. scabios. com. ana. ʒss. M. f. Emet.

“Sæpè miratus sum dum fortè materiam vomitu re-  
 “jectam aliquando curiosè contemplabar, éamque neque  
 “mole valde spectabilem, nec pravis qualitatibus insignem,  
 “quì factum fuerit ut ægri tantum levaminis ex-  
 “inde senserint; nempe vomitu peractò, sæva illa symp-  
 “tomata (nausea v. g. anxietas, jactationes, suspiria luc-  
 “tuosa, linguæ nigredo, &c.) quæ et ipsos excruciant,  
 “et adstantes porterrefecerant, mitigari solent ac solvi,  
 “quòdque morbi reliquum est εὐδύμως tolerari.”—T.  
 SYDENHAM. Oper. p. 21. An. 1705. Ed. 3.

parts of his works. In treating of the cure of continued fevers, having ordered a vomit of Vinum Benedictum, he thus expresses himself; “ After a nice view of the matter  
 “ cast up by vomits, which was neither  
 “ much, nor ill, I have often wondered how  
 “ it comes to pass, that the sick should be  
 “ so much relieved by it ; for as soon as the  
 “ vomit has done working, the violent  
 “ symptoms, viz. the nauseousness, anxiety,  
 “ restlessness, sighing, and *blackness of the*  
 “ *tongue*, were commonly mitigated, which  
 “ before afflicted the sick and frightened the  
 “ bye-standers ; so that the rest of the  
 “ disease was very tolerable.”

This is a very strong evidence in favour of the general effects of vomiting upon the system, independent of the matter evacuated from the stomach, which, as in this instance, is very often “ neither much, nor ill,” yet the symptoms shall greatly abate, and by a repetition be entirely removed. Sydenham was of opinion (and the same is generally received at present) that the good effects of vomiting were confined to evacuating the matter from the stomach, and therefore to be given chiefly in the beginning of  
 fevers,

fevers, when they were indicated by sickness and nausea. But he also orders them when called later, even on the twelfth day with success in stopping the looseness, when the patient was no longer sick; and observes, that when vomits were not given early, the disease did not terminate till a looseness came on. That is, the matter always contained in the stomach and intestines not having been removed at the beginning, by the increased heat of the body becomes highly putrid and acrid, and stimulating the canal produces its own expulsion, thereby removing those symptoms which were occasioned by its retention. He adds, “ and now before I  
“ leave off discoursing of vomits, I must  
“ acquaint you, that it is by no means safe,  
“ at least in this fever, to give vomits of  
“ Vinum Benedictum to children, or any  
“ under fourteen, no not in the least  
“ quantity. It were to be wished that in  
“ the room of this we had some safer  
“ medicine that was as powerful, which  
“ might root out the humour that always  
“ almost threatens a looseness at the decli-  
“ nation of the fever; at least, that we  
“ had such a one as would so alter the sharp



“ humour, that it could not occasion a  
 “ looseness. I have indeed been frequently  
 “ at a stand, when I have visited infants and  
 “ children in a fever, and have seen an  
 “ indication, which persuaded the use of  
 “ a remedy that would have cured them,  
 “ and yet I did not dare to order it, for fear  
 “ of the consequences; but in grown people  
 “ I have hitherto observed no hurt proceed-  
 “ ing from a vomit, if it were given with the  
 “ cautions above-mentioned <sup>13</sup>.”

What

<sup>13</sup> “ Hic autem loci, priusquam de Emeticis dicendi  
 “ finem faciam, prætereundum non est, omnino tutum  
 “ non esse (saltem in hac febre) Vomitoria ex infus.  
 “ Croc. metall. parata puerulis, ullisve infra adolescenti-  
 “ tiam constitutis vel minimâ quantitate exhibere. Op-  
 “ tarem equidem ut illius loco alia nobis tutiora, sed  
 “ satis interm efficacia suppeterent, quæ humorem hunc  
 “ in febris declinatione ferè semper Diarrhœam minitan-  
 “ tem radicitus exterpere possit; vel saltem ut medica-  
 “ mento aliquo idoneo acrem istam materiam ejusque vim  
 “ corrosivam ita mutare liceret, ac retexere, ut com-  
 “ movere Diarrhœam nequiret. Sæpius profecto mihi  
 “ molestum illud accidit, quod ad infantes puerosque  
 “ febre correptos accersitus, indicationem conspexi, quæ  
 “ quidem medicamenti usum suavitatis cujus ope extra peri-  
 “ culum collocari potuissent, quod tamen exhibere, ve-  
 “ ritus infœlicem exitum, non sum ausus. Verùm in  
 “ adultis nullam indenoxam hæcenus observavi, modò  
 “ cum

What he wished for, we possess in the Rad. Ipecac. a medicine so gentle as to be given to children in every age with safety, though not possessed of the virtue of correcting the quality of the sharp humour in fevers; that can only be done by their expulsion which it effectuates. But it would seem that Sydenham was either easily alarmed, or that his Vin. Bened. was particularly drastic and rough in its operation; for our preparations of antimony are given safely to children in the month <sup>14</sup> when properly dosed, and with the best effects; not only evacuating the contents of the stomach better, but with less nausea and sickness than the Ipecac.

In complaints of the breast, HUXHAM <sup>15</sup> was accustomed to order gentle vomits,  
 “ But I have several times given an emetic  
 “ in peripneumonies with great advantage,  
 “ when the expectoration hath been suddenly suppressed, and the difficulty of  
 “ cum cautionibus prædictis Emeticum propinetur.”—T.  
 SYDENHAM Oper. p. 23. An. 1705.

<sup>14</sup> See G. ARMSTRONG Dis. of Children. An. 1777.

<sup>15</sup> HUXHAM on Fevers, p. 204. 228. 109. An. 1757. Ed. 3.

“ breathing greatly augmented ; but it was  
 “ when a proper quantity of blood had  
 “ been drawn antecedently, and the vio-  
 “ lence of the fever abated ; but in such  
 “ cases very little should be drank after it  
 “ to promote the vomiting.—As a bastard  
 “ peripneumony is commonly attended with  
 “ frequent urgings to vomit, I think it  
 “ pretty clearly hints to us the expediency  
 “ of relieving nature that way ; and ac-  
 “ cordingly I have often experienced the  
 “ good effects of gentle vomits in it, after  
 “ some blood had been drawn off. A spoon-  
 “ ful or two of Oxy mel Scillit. or Vinum  
 “ Ipecac. with a few draughts of mustard  
 “ whey, or the like, are sufficient : a large  
 “ quantity of any kind of liquor should not  
 “ be drank. This not only pumps up much  
 “ heavy pituita from the stomach and lungs,  
 “ but also by the concussion it gives the  
 “ whole vascular system, promotes a general  
 “ attenuation and fluxility of the humours ;  
 “ and a stool, or sweat commonly succeeds.  
 “ The mighty cures in pleurifies, &c. boasted  
 “ of by Rulandus<sup>16</sup>, and others, with the

16 MART. RULANDI curat. empiric. passim.

“ anti-

“ *antimonial aqua benedicta*, were greatly  
“ owing to its emetic quality ; and the  
“ famous Poudre des Chartreux <sup>17</sup>, or Kermes  
“ mineral, gained such high repute in pleu-  
“ rifies, peripneumonies and defluxions on  
“ the breast, in a great measure at least,  
“ from the gentle efforts it creates to vomit.  
“ Undoubtedly it hath had good effects in  
“ catarrhal fevers, and pituitous peripneu-  
“ monies ; but to give either the one or the  
“ other in inflammatory peripneumonies,  
“ or pleurifies, without previous bleeding,  
“ is utterly wrong, dangerous, and em-  
“ pirical.”

This celebrated physician was fully con-  
vinced that vomiting was the only effectual  
evacuation in malignant fevers, and the only  
one they would bear ; for bleeding or purg-  
ing reduced the strength below the power  
of medicine to restore. “ Besides, the pulse,  
“ in those cases, sinks oftentimes surprisngly  
“ after a second bleeding, nay, sometimes  
“ after the first : and this I have more than  
“ once noted to my great concern and asto-  
“ nishment, and that even where I thought

<sup>17</sup> Mem. de l'Acad. R. des Sci. An. 1720.

“ I had



“ I had fufficient indications from the  
 “ pulse, &c. to draw blood a fecond time.  
 “ So neceffary is it therefore to have a due  
 “ regard to the peculiar nature of an epi-  
 “ demic fever.”

It would give me great fatisfaction, if any thing faid in the courfe of this work would tend to convince the profefion at large, that the caufe of difeafes is rarely, if ever, feated in the blood; and therefore the lavifhly pouring it forth, can anfwer no other purpofe but to fink the ftrength of the patient; in many difeafes never to be reftored: this effect it has beyond any evacuation we are acquainted with.

CHEYNE<sup>18</sup>, who carried the ufe of low and regular diet farther than any modern author, very highly commends emetics in a variety of difeafes both of the body and mind. In his treatife on thofe fubjects, he fays, “ I am bold to fay, no operation, “ remedy, or antidote in phyfic, is fo univerfal, fpeedy, and effectual as vomits, “ when they can be given with any fafety,

<sup>18</sup> CHEYNE Dif. Body and Mind. p. 144. An. 1742.

“ at least in these our northern climates.  
“ I know not the name or kind of a dis-  
“ temper afflicting the animal machine,  
“ where vomits are not beneficial, salutary,  
“ and of efficacy; because almost all our  
“ diseases proceed from too much, and too  
“ strong meats and drinks. It is a known  
“ fact, that Hippocrates, the father of physic,  
“ advised for prevention, the fat patients to  
“ vomit twice a month, and the lean ones.  
“ Vomits not only throw off concocted im-  
“ purities directly from the stomach, the  
“ Pylorus, and the glands about the abdo-  
“ men and heart, (the source and spring of  
“ life and motion) but by their concussion  
“ and convulsion, act upon the most distant  
“ veins, arteries, and glands, and break open  
“ and squeeze every part of the machine.—  
“ It is a seeming frightful operation, and  
“ attended with some pain and sickness to  
“ the patient; but it is the most beneficial  
“ and salutary, and of the most immediate  
“ relief of any operation in physic.—I can  
“ think of no case wherein they cannot,  
“ and ought not to be attempted and per-  
“ fisted in, as the symptoms return, but an  
“ hemorrhage, hemoptoe, or rupture of  
“ some

“ some vessel, and even these I have known  
“ perfectly cured by vomits ; and if a gentle,  
“ unsickening, easy manner or medicine for  
“ a vomit were found, I think it would be  
“ of the greatest and most universal service  
“ in British physic : but I fear it is contra-  
“ dictory : for the more active and forcible  
“ they are, the more beneficial they will  
“ be : and I know none preferable to the  
“ Indian root, and its preparations, joined  
“ to a few grains of Tartar, or drams of wine  
“ Emetie, as the case and patient require,  
“ or a decoction of the bitter plants, and  
“ even urging with the finger or a feather,  
“ in relaxed stomach and glands, if often  
“ at a time and daily repeated, give infinite  
“ relief.”

These sentiments though expressed in a singular manner, are so consonant to my ideas on the use of vomits, that I could not refrain from laying them before the reader at large. This author affected a stile and manner differing from his contemporaries, but he was a man of penetration, sagacity, and extensive practice ; experience, I doubt not, will justify this opinion of the physician, and of the medicine,

WHYTF

WHYTT<sup>19</sup> relates a case of convulsion fits which continued near a month, the patient having sometimes eight or ten in a day, after trying every kind of nervous and antispasmodic medicine without effect, the complaint was perfectly cured by vomits taken every morning: they always discharged much bile.

In the most accurate and best authenticated account of the plague, that has come to my knowledge, we find vomits produced the happiest effects. It was the first remedy applied after the seizure, and “if the nausea  
“and bitter taste in the mouth was not removed by the first, they gave a second,  
“and sometimes a third and fourth; nay, if  
“the symptoms were very urgent, they  
“gave two or three in the space of twelve  
“hours, as there is no time to be lost in  
“this disease; for they did not find this  
“species of evacuation subject to the same  
“objection as brisk purging, which a man  
“in the plague is unable to support; nay,  
“they are even dangerous, although he

<sup>19</sup> WHYTT'S Works, p. 692. Ed. 4to. An. 1768.

“bears



“ bears brisk vomits, and a repetition of  
 “ them, when the nature of the case re-  
 “ quires it <sup>20</sup>.” A medical gentleman who  
 survived two attacks of this dreadful ma-  
 lady, began his cure with a strong vomit and  
 repeated it once or twice, taking in the in-  
 tervals an opening ptisan, and after evacua-  
 tions the bark, camphor, &c.

When this country was visited by the  
 plague, an author of some reputation re-  
 commends as a preservative to the poor,  
 repeated vomits of two or three grains of  
 Vitrum Antim. and during the contagion  
 Salt of Vitriol as being quicker in its opera-  
 tion <sup>21</sup>.

The effects of vomiting on the absorbent  
 system is very considerable, and has been  
 noticed by many authors of eminence.  
 HOME in his Clinical Experiments relates,  
 that out of ten dropsical patients seven were  
 cured, by taking dried squills, from two to  
 eighteen grains every morning. They first  
 purged and increased the urine, and then  
 vomited up much watery fluid. In a few

<sup>20</sup> DUNCAN'S Com. for 1781 and 1782.

<sup>21</sup> GIDEON HARVEY on the Plague. 1673.

days a nausea comes on and vomiting, often with severe pain in the stomach; during which the pulse is remarkably slow but not attended with danger. In these cases it would seem, that the pains in the stomach and sinking of the pulse were occasioned by the deleterious quality of the squills, which in large doses always act violently: I have seen a person fall down insensible after taking four grains united with an opiate. The good effects are produced by the action of vomiting, increasing the energy of the system in general, and therefore that medicine which operates most easy is to be preferred <sup>22</sup>.

If emetics increase the power of absorption by augmenting the energy of the lymphatic system; and if the hectic fever were caused by the absorption of pus from the lungs, it would necessarily follow, that when these medicines are given frequently in Phthisis Pulmonalis, the violence of the hectic fever would of course be increased. That emetics do not aggravate the symp-

<sup>22</sup> The reader may consult Millman on the Dropsy. 1779.

toms of fevers in general I hope the evidence I have brought in their favour will sufficiently prove to the satisfaction of the reader; and that they do not augment the pulmonary hectic, I must request my word may be taken, till it is refuted or confirmed by experience.

In the preceding work I have recommended the Pulv. Ipecac. &c. to be taken in small doses every morning, so as to excite vomiting once or twice, not oftener, according to the symptoms, in all kinds of coughs or disorders of the breast commonly supposed to originate from cold. It has been objected, that vomiting so frequently would destroy the tone of the stomach, and be attended with other bad consequences. For the instruction of such critics, whom I would advise to read before they write, I shall produce an opinion which will fully prove the safety and confirm the efficacy of the practice.

In a paper on the use of Ipecacuanha, written by a late learned physician, he thus expresses himself, “ But when there is no-  
“ thing, in the particular case, which can  
“ render the repeated action of vomiting  
“ unsafe

“ unsafe or improper, I know of no medicine  
“ so effectual, for removing the spasmodic  
“ asthma, as Ipecacuanha; which I have  
“ now for several years been accustomed  
“ to give with this intention. Where I have  
“ found the patient in a violent paroxysm,  
“ I have ordered a scruple of Ipecacuanha  
“ to be instantly administered; which failed  
“ not to procure great and immediate relief.  
“ But in prescribing for the chronical or  
“ habitual indisposition, I give from three  
“ to five grains every morning, or from  
“ five to ten grains every other morning,  
“ according to the degree of the disease,  
“ and without particular regard to any pa-  
“ roxysm: in which method I have some-  
“ times persisted for *a month or six weeks*  
“ *together*. And though the patients are  
“ apt at first to complain both of the nau-  
“ seousness and fatigue attending it; yet,  
“ after a little experience, I have found  
“ them willing to acquiesce in it, or, where  
“ it had been laid aside, desirous to return  
“ to it. In a dose of five grains, the me-  
“ dicine generally acts as an emetic: on  
“ some persons, however, it has not that  
“ effect, nor produces any alteration on



“ the stomach beyond mere sickness; which  
 “ of course more frequently, indeed almost  
 “ always, happens when only three grains  
 “ are given. Yet in those instances I have  
 “ found the medicine equally useful as in  
 “ those where the same dose of it proved  
 “ emetic. So that the relief which it brings  
 “ to the asthma, does not depend on the  
 “ action of vomiting, but seems owing to  
 “ that general antispasmodic or relaxing pro-  
 “ perty which, as I have elsewhere endea-  
 “ voured to show, belongs to Ipecacuanha,  
 “ and of which its emetic operation itself  
 “ appears with great probability to be a par-  
 “ ticular consequence <sup>23</sup>.”

<sup>23</sup> AKENSIDE Med. Transf. Vol. I. An. 1772.

“ Neque id satis est : vomitus etiam, si pituita tenax,  
 “ pulmonem aut ventriculum gravat, apprime utilis est ;  
 “ et is quidem frequenter repetitus.”—MEAD Mon. et  
 Prec. Med. de Asthmate. An. 1751.

“ Vomiting, if gentle, very much relieves the fit (of  
 “ the asthma) by evacuating a great quantity of ferment-  
 “ ing humours from the stomach ; and the straining to  
 “ vomit dissipates the inflations both in the lungs and  
 “ stomach, and some slimy lymph is evacuated from  
 “ both.”—Sir JOHN FLOYER on the Asthma, Anno  
 1698.

Vide Phthisiologia Lancastr. CARLO LEIGH, M. D.  
 An. 1694.

I have

I have frequently given the Ipecacuanha both in the spasmodic and humoral asthma, but never perceived any benefit from its use except when it occasioned vomiting, and the same relief has been found from Tart. Emet. operating in a similar manner. It therefore appeared to me that the good effects of this medicine proceeds from the action of vomiting, and not from any anti-spasmodic relaxing quality inherent in the Ipecacuanha. When the disease is purely spasmodic and not of the mixed kind as is generally the case, exciting sickness in the stomach, as it introduces a new stimulus to the system, may by the consent of parts give some degree of relief, but not equal to what is produced by vomiting. In the whooping cough which is also supposed to be a spasmodic disease, the same relief is experienced whether the Ipecacuanha or Emet. Tart. is given to produce vomiting.

The celebrated fever powder of the late Dr. James, I have been in the habit of giving for many years in complaints of the inflammatory kind; and always found it had the best effect when it occasioned vomiting and afterwards purged, as if one were a necessary

consequence of the other; but when it acts in neither way, seldom any relief is found from its use.

I have sometimes seen it given in large doses without the least apparent operation or effect; and in one case of fever, the stomach was in such a state as not to be susceptible of being acted upon by antimonials; the powder being totally inert, and the Tart. Emet. running off by the bowels. But after the patient had been vomited with Ipecacuanha, given indeed in a larger quantity than usual, the powder in a moderate dose occasioned sickness, vomiting, and purging, by which the disease was removed. From some cases of this kind that have occurred to me, I have no doubt that Ipecacuanha will act upon the stomach, when antimonials will not, and when its atony is removed, other medicines will have their proper action.

I could with ease produce many other authorities for the efficacy of Emetics considered as a general remedy; but presume the number will be thought fully sufficient. I shall now endeavour to support the reasoning used in recommending them in diseases

4

cases

eases of the lungs, by considering the state those parts have been found in, when the disease has proved fatal: and this I shall prefer doing from the works of others, rather than from my own observation.

HOME in his Clinical Experiments relates a case of the measles, in which the patient died the fifteenth day of the eruption, which appeared the sixth day from the seizure. On opening the body, the trachea was found *full of purulent matter*, but no ulceration whence it could have proceeded was perceived. Admitting this to be really purulent matter which is not improbable, it must have been produced by secretion and not by suppuration. On the day before death the patient was vomited with Tart. Emet. but the Doctor doubts whether it was continued long enough. From the uncertainty as to the operation I should rather be disposed to believe that the patient did not vomit, for if he had, the trachea would not have remained filled with matter, and the quantity could not be secreted in so short a time as between the operation and the patient's death.



IN MORGAGNI we have a case related similar to the above, and which he says was the first of the kind that had been discovered. “ A virgin forty years of age, having been for a long time asthmatic, and having her voice much diminished, was supposed by her physicians, beyond a doubt, to have a disorder of the lungs, when the asthma attacking her very vehemently, she suddenly died. On dissecting the body, the contents of the abdomen, thorax, and cranium were found free from any mark of disease; but upon laying open the posterior part of the larynx in a longitudinal direction, there was found a white pus degenerating into a cineritious colour and of a poultice-like consistence, formed into the shape of a cork, entirely shutting up the cavity of the larynx that lies below the glottis; and in that place the coat investing the larynx was ulcerated, as it was in like manner where it covered some of the nearest annular cartilages of the trachea arteria, although here more slightly<sup>24</sup>”.

A learned

<sup>24</sup> “ Virgo igitur de qua modo dicebam, annos nata  
 “ ad quadraginta, jam diu asthmatica, imminuta insuper  
 “ voce

A learned professor in his first lines of practice, when treating of the Cynanche Trachialis, says, " That when it ends fatally, it is by suffocation; seemingly, as we have said, depending upon a spasm affecting the glottis; but sometimes probably depending upon a quantity of matter *filling the bronchia* (a)—In some persons who have died after labouring under pneumonic inflammation for a few days only, the bronchiæ have been found *filled with a considerable quantity of a ferous and thickish fluid*, which I think

voce, a Medicis procul dubio ex pulmonibus laborare credebatur, cum acius asthmate ingruente, de improvise mortua est.—In thorace autem ipsisque pulmonibus nihil omnino vitii; ut jam omnes intra cranium morbi causam repertum iri, putarent. Sed et ibi recte constituta inventa sunt omnia.—Quam ubi a tergo secundum longitudinem incisam, (laryngem) diduxi, continuo manifestum fuit quod quærebanus. Pus enim ex albo cinereum, et quasi pultaceum, formatum in obturamenti modum, occludebat penitus cavum laryngis quod infra glottidem est: eoque loco tunica laryngem convestiens erat exulcerata, quemadmodum et proximos annulos aliquot Tracheæ arteriæ operiebat; quanquam hic levius."—MORGAGNI caus. et sed Morb. Epist. 15. Art. 13. An. 1761.

(a) CULLEN first lines, § 329.

“ must be considered rather as a ferous  
 “ effusion, having had its thinner parts  
 “ taken off by respiration, than as pus so  
 “ suddenly formed in the inflamed part  
 “ (b).—It would appear that the effusion  
 “ into the bronchiæ, which we have men-  
 “ tioned, often concurs with the effusion  
 “ of red blood in occasioning the suffoca-  
 “ tion, which fatally terminates pneumo-  
 “ nic inflammation; that the effusion of  
 “ serum alone may have this effect; and  
 “ that the serum poured out in a certain  
 “ quantity, rather than any debility in the  
 “ powers of expectoration, is the cause of  
 “ that ceasing of expectoration which very  
 “ constantly precedes the fatal event. For  
 “ in many cases the expectoration has  
 “ ceased, when no other symptoms of de-  
 “ bility have appeared, and when *upon dis-*  
 “ *section the bronchiæ have been found full of*  
 “ *liquid matter.* Nay, it is even probable,  
 “ that in some cases, such an effusion may  
 “ take place without any symptoms of vio-  
 “ lent inflammation; and, in other cases,  
 “ the effusion taking place, may seem to  
 “ remove the symptoms of inflammation

(b) CULLEN first lines, § 348. Ed. 4. An. 1784.

“ which

“ which had appeared before, and thus  
 “ account for the unexpected fatal termi-  
 “ nation which have sometimes happened.  
 “ Possibly this effusion may account also  
 “ for many of the phænomena of the pe-  
 “ ripneumonia notha. (c) But further, as  
 “ pneumonic inflammation very often pro-  
 “ duces an effusion of serum into the bron-  
 “ chia, so this, in elderly persons may oc-  
 “ cur in a slight degree of inflammation;  
 “ and when it does happen, will give the  
 “ exquisite and fatal cases of the peripneu-  
 “ monia notha<sup>25</sup>.”

These cases throw so strong a light upon  
 the propriety of the method of treatment  
 I have been labouring to inculcate in dis-  
 eases of the breast, that I thought it my  
 duty to lay them at length before the  
 reader.

When by the difficulty of breathing  
 and other symptoms, we are led to appre-  
 hend that such an effusion as related by  
 the learned professor has taken place in  
 the bronchia, is there in the whole mate-  
 ria medica a remedy of such certain effi-

(c) CULLEN first lines, § 350.

<sup>25</sup> CULLEN first lines, § 380. Ed. 4. An. 1784.



cacy as an emetic? or is there any other means, any resource in art that we can depend upon, or that has the power of removing the matter so effused? Certainly there is none. And in the preceding cases, the authenticity and exactness of which cannot be doubted, had emetics been used properly either in the beginning or progress of the disease, or even when the difficulty of breathing succeeded to the seeming termination of the inflammation; I believe every unprejudiced mind will agree with me, that if the removal of the effused matter could have saved the patient's life, there is every reason to think the fatal events would not have taken place.

In diseases of the contents of the thorax, it is not easy to determine with precision what part is principally affected<sup>26</sup>; and in great difficulty of breathing, except when

<sup>26</sup> “ Vix ullum in corpore toto particulum superesse,  
 “ cujus non aliquæ in negotio *respirationis* partes sint,  
 “ *et illud verissime subjecit*, summam in morbis difficul-  
 “ tatem facere magnum numerum organorum, quæ ad  
 “ actionem concurrunt, et quorum aliquod læsum totam  
 “ functionem turbat, cum interim difficilimum sit scitu,  
 “ quæ ex toto numero propriè læsa sit.”—BOERHAAVE  
 Præl. ad Insit. § 601.

attended with a rattling noise in the throat, it is not possible to ascertain that no such effusion of matter has taken place, and when it does to a certain extent, we have seen it prove mortal. In such cases, supposing we did know by the bubbling, rattling noise in their breathing, mentioned by Morgagni<sup>27</sup>, when the effusion of matter began and was gradually filling up the bronchia, I would ask the opposers of emetics in diseases of the lungs, I would ask the learned professor, what means they would propose to evacuate the matter with certainty? On this question it has appeared the life of the patient depends, and it surely then requires and deserves our utmost deliberation. Probably expectorants, balsamics, pectorals, blisters, fumigations, opiates, caustics, purges, &c. as is the common practice would be respectively tried. What effects would these medicines produce in discharging that matter or serous fluid gradually accumulating to the extinction of life? They would amuse the patient and their friends, but they would

<sup>27</sup> MORGAGNI caus. & sed. Morb. Ep. 13. Art. 4.

leave the disease to proceed uninterrupted to its fatal termination.

The learned professor is of opinion that *full vomiting* in *pneumonic inflammation* is a dangerous practice. As it would give me much concern to have a name so formidable in the medical world stand in direct opposition to the treatment of pulmonary complaints I have been recommending; I shall take the liberty by selecting such sections as relate immediately to the subject, to make it appear that he is not uniform in his disapprobation of emetics in diseases of the contents of the thorax, attended with inflammation.

“ Under this title (Pneumonic Inflam-  
 “ mation) I mean to comprehend the whole  
 “ of the inflammations affecting either the  
 “ viscera of the thorax, or the membrane  
 “ lining the interior surface of that cavity;  
 “ for neither do our diagnostie serve to as-  
 “ certain exactly the seat of the disease;  
 “ nor does the difference in the seat of the  
 “ disease exhibit any considerable variation  
 “ in the state of the symptoms, nor lead  
 “ to any difference in the method of cure<sup>28</sup>. ”

<sup>28</sup> CULLEN first lines, § 334.

Treating of the method of cure, he says,  
 “ To excite *full vomiting by emetics*, I judge  
 “ to be a dangerous practice in this disease :  
 “ but I have found it useful to exhibit  
 “ nauseating doses ; and in a somewhat ad-  
 “ vanced state of the disease, I have found  
 “ such doses prove the best means of pro-  
 “ moting expectoration <sup>29</sup>.” When treat-  
 ing of the peripneumonia notha, he says,  
 “ The cough often becomes frequent and  
 “ violent ; is sometimes accompanied with  
 “ a rending head-ach ; and, as in other  
 “ cases of cough, a vomiting is sometimes  
 “ excited by it. The face is sometimes  
 “ flushed, and some giddiness, or drowfi-  
 “ ness, often attends the disease. A dif-  
 “ ficulty of breathing, with a sense of  
 “ oppression, or straitening in the chest,  
 “ with some obscure pains there, and a  
 “ sense of lassitude over the whole body,  
 “ very constantly attend this disease. The  
 “ blood drawn in this disease shews a buffy  
 “ surface, *as in other inflammatory affec-*  
 “ *tions* <sup>30</sup>.” And again, “ A catarrh, how-

<sup>29</sup> CULLEN first lines, § 371.  
 Ed. 4. An. 1784.

<sup>30</sup> Ibid. § 379.



“ ever, is strictly an affection of the mucus  
 “ membrane and follicles of the bronchiæ  
 “ alone: *but it may readily have, and fre-*  
 “ *quently has, a degree of pneumonic inflam-*  
 “ *mation joined to it; and in that case may*  
 “ prove more properly the peculiar disease  
 “ we treat of here,” (i. e. Peripneumonia  
 Notha<sup>31</sup>.)

The peripneumonia notha is therefore an inflammatory disease affecting the viscera of the thorax; attended sometimes with fever, with cough, difficulty of breathing, and many of the symptoms of pneumonic inflammation; in the cure of which, he says,  
 “ In all cases the remedies chiefly to be  
 “ depended upon, are vomiting and blister-  
 “ ing. *Full vomiting may be frequently re-*  
 “ *peated, and nauseating doses ought to be*  
 “ *constantly employed*<sup>32</sup>.”

Treating of the Catarrh in old people, who have the natural mucus of the lungs poured out in greater quantity. “ If there-  
 “ fore a catarrh happen to such persons,  
 “ and increase the afflux of fluids to the  
 “ lungs, with *some degree of inflammation*, it

<sup>31</sup> CULLEN first lines, § 380.

<sup>32</sup> Ibid. § 381.

“ may

“ may produce the *peripneumonia notha*,  
 “ which in such cases is very often fatal <sup>33</sup>.”  
 Cure. “ For restoring the determination of  
 “ the fluids to the surface of the body, and  
 “ at the same time for expediting the secre-  
 “ tion of mucus in the lungs, which may  
 “ take off *the inflammation of its membrane* ;  
 “ *vomiting is the most effectual means* <sup>34</sup>.”

As a general remedy, his sentiments are more favourable, “ Vomiting is in many  
 “ respects useful in fevers ; as it evacuates  
 “ the contents of the stomach ; as it  
 “ emulges the biliary, and pancreatic ducts ;  
 “ as it evacuates the contents of the duo-  
 “ denum, and perhaps also of a larger por-  
 “ tion of the intestines ; as it agitates the  
 “ whole of the abdominal viscera, it ex-  
 “ pedes the circulation in them, and pro-  
 “ motes their several secretions ; and lastly,  
 “ *as it agitates also the viscera of the thorax*  
 “ it has like effects there. It determines  
 “ to the surface of the body, not only by  
 “ the exercise of vomiting in agitating the  
 “ whole frame ;—but to the particular ope-  
 “ ration of emetics upon the muscular fibres

<sup>33</sup> CULLEN first lines, § 1056.    <sup>34</sup> Ibid. § 1066.

“ of the stomach, whereby they excite the  
 “ action of the extreme arteries on the sur-  
 “ face of the body, and thereby effectually  
 “ to determine the blood into those vessels,  
 “ remove the atony, and take off spasms  
 “ affecting them <sup>35</sup>.”

Criticism is no part of my plan, nor shall I attempt to reconcile the sense of these opposing passages ; it is sufficient for the present purpose to prove from the learned professor's own words, that he does allow the expediency and absolute necessity, *of frequent and full vomiting* in a disease of the thorax, attended with inflammation of its contents and their membranes. And even the nauseating doses (of antimonials) which he so frequently recommends in pneumonic inflammations, will frequently, especially when first given, vomit, and sometimes to a very considerable degree, or in the author's words *full*, however cautiously the dose may be proportioned to the age and situation of the patient. Indeed, such is the uncertainty in the operation of antimonial medicines, and of Tartar Emetic in particular, that I believe no physician will

35 CULLEN first lines, § 172, 173.

undertake to determine that any dose will, or will not vomit, till its effects have been tried on the constitution. In delicate irritable habits, the smallest portion will operate, whilst in others, no quantity whatever (that can be given with safety) will act upon the stomach <sup>36</sup>.

As it appears from the Professor's general practice, that *full vomiting* in diseases of the lungs is not attended with danger; I trust it will be evident that gentle vomits, the only kind I recommend, produce in diseases affecting the contents of the thorax, and the membranes lining its interior surface, the most beneficial effects; and that in some cases they are the only means capable of relieving the patient, and rescuing him from inevitable death. But against the general voice, against opposition arising from various causes, I scarcely can expect my feeble voice should prevail, or that any argument I can use should stand in compe-

<sup>36</sup> "He took four vomits, with each *four grains of the Tart. Emet.* in the infusion of a drachm of Ipecac. in one week, in vain: none of them working to any purpose."—WOODWARD'S Cases by Templeman, p. 117. An. 1757.



tition with those of the eminent author. Yet let me request the profession will for a moment, divest their minds of prejudice and predilection for the farrago of oils, balsams, and pectorals, and when they cannot with these compositions discharge the accumulation of matter in the lungs and bronchia, or relieve obstinate coughs and difficulty of breathing, let them give emetics, in the manner recommended in the foregoing Essay, a fair trial; should they fail in producing relief, the patient will not be in a worse state than he was before. Experience has fully convinced me not only of their safety, but of their great efficacy in such complaints, and by that test let the method of treatment stand or fall.

In the epidemic Catarrh or Influenza, that spread all over Europe in the spring of the year 1782, I observed very considerable relief from vomits frequently given. They appeased the troublesome cough, and generally produced a salutary moisture on the skin. In a very accurate and intelligent account of that disease, drawn up from the papers of many physicians and practitioners, transmitted for that purpose and lately published,

lished, the effects of emetics among other remedies are thus noticed : “ Emetics do not  
 “ appear to have been very generally used,  
 “ but all who did employ them, con-  
 “ cur in opinion, that they were of great  
 “ service, not only where there was reason  
 “ to suspect an accumulation of mucus in  
 “ the bronchial ramifications, but also where  
 “ they were given chiefly with a view to  
 “ assist in producing a speedy and copious  
 “ perspiration<sup>37</sup>.” The following authorities  
 are subjoined in the notes.

“ In two or three cases of extreme dan-  
 “ ger, when the collected phlegm threat-  
 “ ened suffocation, gentle emetics seemed  
 “ to rescue them from death.”—Dr. CLEG-  
 HORN, Dublin.

“ Emetics gave great relief to all the  
 “ symptoms.”—Dr. FLINT, St. Andrews.

“ An emetic early administered, and fol-  
 “ lowed by frequent draughts of warm di-  
 “ luting liquors, seldom failed of promot-  
 “ ing a profuse perspiration, which if pro-  
 “ perly kept up in bed, removed the whole  
 “ disease in a few days.”—Dr. MACQUEEN,  
 Great Yarmouth.

<sup>37</sup> Dr. GRAY in Med. Commun. p. 35. An. 1784.

“ Emetics given early, contributed greatly  
“ to the speedy recovery of the patient.”—  
Mr. HENRY, Manchester.

“ An emetic, and promoting moderate  
“ perspiration, appeared to answer best to  
“ bring about an easy and speedy termina-  
“ tion of the disease.”—Dr. HOULSTON,  
Liverpool.

“ Emetics at first, and afterwards anti-  
“ monials, relieved very much. In some  
“ cases I found a repetition of the emetic  
“ two or three times of great service.”—  
Mr. NEWELL, Colchester.

In the advanced period of the confluent  
small-pox, when the patient is nearly  
strangled with tough viscid phlegm and pu-  
rulent matter lodged in the bronchia and  
surrounding the epiglottis, I have frequently  
by an emetic evidently snatched them from  
the brink of the grave. And when I attend  
from the beginning of the disease, I always  
keep the throat clear by this means, and  
thereby not only prevent the offensive pu-  
trid matter being swallowed and retained in  
the stomach and intestines, but very often  
reduce the confluent to a distinct kind, pre-  
venting the secondary fever, and leaving  
the

the tongue clean at the crisis. The usual method in such cases is gargling and syringing the throat, and I need not inform the intelligent reader how troublesome, and how ineffectual those means are to the end desired<sup>38</sup>.

That emetics should by their powerful action on the system in general, remove obstructions in the glands and secretory organs, or alter the quality of their secretions is very readily conceived; and we can form some idea in what manner those effects are produced: but in other diseases which at first sight, and especially to those unacquainted with medical subjects, must appear extraordinary, we can form no satisfactory theory of their operation.

38 “ Et profectò ubi eò res rediit ut æger singulis  
 “ momentis à suffocatione periclitetur, stupore obrutus,  
 “ et spiritu ferè undiquâque præcluso, non satis tutò huic  
 “ remedio fiditur: Ægro ita ad incitas redactò Emeticum  
 “ peropportunè ac feliciter nonnunquam exhibui ex *In-*  
 “ *fusione Croci Metallorum*, sed dosi paulo majori. Scilicet *ad*  
 “ *℥iſs*; quando, ob eximiam quâ laborat æger stupiditi-  
 “ tatem, minor dosiſ haudquaquam operabitur, atque  
 “ interim eos exagitando humores quos nequeat educere,  
 “ ægrum in magnum vitæ discrimen conjiciet.”---SY-  
 DEN. Var. Reg. An. 1667, 68 & 69. Op. Om. p. 121.

In



In Uterine Hemorrhages, particularly that which takes place about the cessation of the menses, an eminent professor of midwifery constantly recommends emetics in his public lectures, as a safe and efficacious remedy <sup>39</sup>.

In hemoptysis, or spitting of blood from the lungs, vomiting acts as a powerful styptic. "And I have myself often directed vomits in bleeding (hemoptysis) caused by the erosion of Ichor, and observed them sometimes of service, but never any hemorrhage increased thereby <sup>40</sup>."

<sup>39</sup> Dr. OSBORN.

CULLEN first lines, § 796. Ed. 4. 1784.

BRYAN ROBINSON on Med.

CLOSSY Obs. p. 60. An. 1763.

In a case of hemoptoe, attended with bilious complaints, in which strong vomits were taken repeatedly, always with relief, but they never brought on the spitting of blood. "He has sat down, to take a strong vomit, so weak, so feeble, and dispirited, that they who looked on were apprehensive he would not have strength to go through it. Whereas he rose, after the operation, ever much refreshed, and with his strength sensibly raised.---No vomits ever hurt him---spitting of blood foreseen, and prevented by a vomit."---WOODWARD'S Cases by Templeman, p. 116, & seq. An. 1757.

In

In Hemorrhages I perfectly agree with this author, that emetics should be used with great caution and not till other means have been tried; for in applying remedies out of the common beaten path of practice, it is necessary we should have the approbation not only of the patient, but of those who are interested in his recovery, “*Ne vi-  
dearis occidisse quem servare non potes.*”

From the sentiments of the authors I have quoted, and others the reader may consult<sup>41</sup>, it would appear that the action  
of

41 “*Etenim vomitus pituitam inanit, caput levat, et  
ne qui avidius nonnunquam cibum ingesserint, crudi-  
tate laborent: item ne qui vinum liberalius sumpserint,  
offendantur, prohibet.*”—PAUL. ÆGENIT. lib. 1.  
p. 42. Lugd. 1567.

Ibid. lib. 1. c. 7. Ibid. in Morb. Ventric. cap. 68.

Ibid. de Choler. lib. 3. c. 39.

“*Tussis infantum ferè semper esse solèt à stomacho  
cruditatibus scatente, quo in casu semper stomacho re-  
spiciendum, non posthabitis tamen pectoris remediis.*”  
—BAGLIVI. p. 114. An. 1636.

“*Si vitio stomachi oritur hæctica, convenit ante om-  
nia vomitorium blandum instituere, si vires adhuc sunt  
validæ. Audiendum hic est Lindani consilium, dum  
inquit: in curatione hæcticæ statim ad partis affectæ  
cognitionem incumbere oportet, qua cognita ego faci-*  
“*lius*

of vomiting is not confined merely to evacuating the contents of the stomach, but that it agitates and removes obstructions in the abdominal viscera, and in the contents of the thorax, increases or renews the powers of the absorbent system, opens obstructions in the cutaneous pores, and acts in general upon the system, so as to increase what has been termed the *vis medicatrix naturæ*, or that power in the human body always striving to restore health. There are few diseases in which this remedy may not be given and repeated with safety and success; and perhaps, when we have by these

“ *lius hæticam quam quartanam curabo; oriuntur enim*  
 “ *plerumque ex vitio stomachi. Sic (inquit) curavi*  
 “ *uno vomitorio, et hinc cum elixir proprietatis, hæti-*  
 “ *cam intra 4 dies.*”---ETMULER. *Colleg. Pract.* p. 314.  
 An. 1671.

“ *Si vero pus cæperit per stomachum vomitu purgari,*  
 “ *adjuvare excretionem oportebit vomitoriis medicamen-*  
 “ *tis.*”---PROSP. ALP. *Med. Meth. lib. 8.* p. 500. An. 1719.

WOODWARD'S *State of Physic and Diseases*, p. 1.  
 An. 1718.

WOODWARD'S *Cases by Templeman*, p. 52. 155. 157.  
 172. 300. 375.

“ *Gentle vomits and purges frequently repeated, are*  
 “ *particularly useful in beginning indolent obstructions*  
 “ *of the abdominal viscera.*”---WHYTT, p. 670. 4to.  
 Ed. An. 1768.

and

and other appropriated means, removed every kind of offending matter from the stomach and intestines, we have made a very considerable progress in the cure of the disease.

Among the cases in which emetics are improper, may be reckoned every kind of Hernia, scirrhus affections and inflammation of the stomach, Nephritis; and although it is a general practice to give them during pregnancy, (as observed in Chap. 7.) yet it should be done with great caution and circumspection. Many other cases will occur in practice, in which from various causes emetics will be improper; of those the judicious physician will be a competent judge, and as this work is not meant to preclude his advice, any farther directions will be unnecessary.

If the arguments I have drawn from the works of authors of the first reputation in the profession, shall convince the reader that emetics have been used in every age, and in almost every disease, and that they may be repeated every day for any length of time, without injury to the stomach, but with great benefit to the general health; I



trust it will not only remove the objections which have been made to the method of treatment recommended in the foregoing Essay, but confirm the propriety of the practice. Should that be the case, men of liberal minds, anxious for the improvement of the science, will not hesitate in giving the medicine the fair trial I have solicited; and I flatter myself the frequent use of emetics will be found to shorten the period of the disease, to relieve the sick from a load of nauseous unavailing medicines, and to give that satisfaction and reputation to the physician, more valuable than the accumulation of riches.

THE END.

## *ERRATA.*

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- Page 18—Note, for Benedicto—read Benedicti.  
30—line 4. } for parynchematous—read parenchymatous.  
45—9. }  
129—6. for should—read shall.  
158 — 17. after matter add ,  
189—Note, for Aikenfide—read Akenfide.  
295—line 4. dele that.

